

Education and Social Relationships between Museums and Older People: A Scoping Review

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ABSTRACT: Rapidly ageing population increases the demand for activities with learning and social stimulation. Museums are well placed to provide such a function. Objective: How and in what form are museums engaging with older populations. The review will focus on three aspects: (1) Identifying the frameworks and tools being used by and in museums with older people. (2) Assess variables used in research and in areas that supports knowledge creation. (3) Identify evidence in relation to the interactions between museums and older audiences. A review of 8 databases and 2 university repositories (English and Portuguese language). The

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search retrieved 810 potential sources (2002-2020), 39 sources met the inclusion criteria. They focused on the educational aspects of museums and were produced by disciplines like psychology and gerontology, museology, arts and education. Museums play an important role on health (emphasis on psychological and physical wellbeing), socialization (discussing stereotypes, reducing isolation, redefining social roles), socioeconomic aspects (with local focus on services, partnerships) and on creative aging (promoting non-formal education with lifelong learning at different levels).

KEYWORDS: Ageing. Audience engagement. Lifelong learning. Museum Studies. Human Development. Older populations.

RESUMO: O rápido envelhecimento da população aumenta a demanda por atividades com aprendizagem e estimulação social para público com 60 e mais anos. Os museus estão bem posicionados para oferecer tal função. Objetivo: como e de que forma os museus se relacionam com as populações mais velhas. A revisão enfoca os seguintes aspectos: Identificar metodologias usadas por e nos museus para atender pessoas idosas. Variáveis utilizadas por pesquisas e áreas que produzem evidências. Identificar evidências na literatura sobre as relações entre museus e públicos mais velhos. A revisão escopo em 8 bases de dados e 2 repositórios universitários (língua inglesa e portuguesa). A busca identificou 810 fontes potenciais de pesquisa (2002-2020), 39 fontes atenderam aos critérios de inclusão. As publicações se concentraram nos aspectos educacionais dos museus e foram produzidos por disciplinas como psicologia e gerontologia, museologia, artes e educação. Os museus desempenham um papel importante com estudos que impactam a saúde (ênfase no bem-estar psicológico e físico), socialização (discutir estereótipos, reduzir o isolamento, redefinir papéis sociais), aspectos socioeconômicos (com foco local em serviços, parcerias) e no envelhecimento criativo (promover a educação não formal com aprendizagem ao longo da vida em diferentes níveis).

PALAVRAS-CHAVE: Desenvolvimento humano. Envelhecimento. Educação ao longo da vida. Estudos de museus. Idoso.

INTRODUCTION/BACKGROUND

The rapid aging of the population is accompanied by an increase in demand for sociocultural activities. Museums, as unique spaces for promoting socialization, inclusion⁴ lifelong learning⁵ and well-being despite some disease experience,⁶ can thrive through interaction with older audiences. Living longer opens up new opportunities: as part of the process of population active aging,⁷ the challenges arising from the new demographic scenario⁸ must be addressed.

Within musealization, a process that means working with collections but also heritage and society, there is the possibility of engagement with the community and of partnerships between diverse older audiences and a range of museum activities.⁹ Engagement in socio educational activities and museum visits can represent positive outcomes for active participative aging if the environment allows these opportunities to be nurtured and can flourish.

It is important to understand context dimensions of museums to promote docility/proactivity in cultural spaces to maintain or extend physical environment and also sense of belonging, social possibilities, security, socioeconomic accessibility and technological dimensions,¹⁰ creating more age-friendly spaces.¹¹

The stance of social museology is important, based on guidelines which have evolved since the 1970s. In a recent synthesis, museums seek to define themselves as:

democratizing, inclusive and polyphonic spaces, oriented for critical dialogue about the past and future, [...], guaranteeing equal rights and access to heritage for all people [...] they are participatory and transparent, and work in active partnership with and for diverse communities to collect, preserve, research, interpret, exhibit, and enhance understandings of the world, aiming to contribute to human dignity and social justice, global equality and planetary wellbeing.¹²

The importance of wellbeing, quality of life and self-esteem are variables addressed by psychology and gerontology and can be explored by areas that bring together interdisciplinary knowledge like museology. Generativity¹³ is a concept involving the theory of lifespan with respect to lifelong human development¹⁴ much more than a stage it is relevant refer the legacy and contributions to future generations, as component of personality that can influence cultural postures, intergenerational contacts and adaptation thought lifelong learning.¹⁵

Museum relationships allow learning processes to be devised within non-formal education¹⁶ or in broader ways through generic learning.¹⁷ Understanding

4. Check Garner, Kaplan e Pugh (2016), Roe *et al.* (2014) e Todd *et al.* (2017).

5. Check Goulding (2012) e Hsieh (2010).

6. Check Ander (2012), Ioannides (2016), Johnson *et al.* (2015).

7. Check World Health Organization (2002).

8. *Id.* (2015).

9. Check Desmarais, Bedford e Chatterjee (2018) e Lackoi (2016).

10. Check Wahl, Iwarsson e Oswald (2012) e Wahl e Gerstorf (2020).

11. Check World Health Organization (2007).

12. Check International Council of Museums (2019).

13. Check Erikson (1963, 1969, 1982) *apud* MacAdams, St. Aubin e Logan (1993).

14. Check Baltes (1987).

15. Check Schoklitsch e Baumann (2012).

16. Check Gohn (2006), Köptke e Valente (2002), Marandino (2008) e Marandino *et al.* (2003).

17. Check Castro (2015), Gohn (2014), Hooper-Greenhill *et al.* (2003) e Withnall (2016).

18. Check Hamblin e Harper (2016) e World Health Organization (2007).

19. Check Hernández e Toney (2021).

20. Check Araujo (2016) e Silva (2016).

21. Check Instituto Brasileiro de Geografia e Estatística (2015).

22. *Ibid.* (2015).

23. Check Kelly *et al.* (2002).

24. Check Teixeira, Faria e Vlachou (2012).

25. Check Smiraglia (2016).

26. Check Benitez (2013) e Robertson (2015).

27. Check Cury (2010).

28. Check Hooper-Greenhill *et al.*, *op. cit.*

29. Check Cachioni *et al.* (2014), Doll (2007), Neri (2011) e Vieira *et al.* (2013).

30. Check Garcia-Valdez, Sanchez-Gonzalez e Roman-Perez (2019), Wahl, Iwarsson e Oswald (2012) e Wahl e Weisman (2003).

the interaction between museums and older audiences allows interdisciplinary insights to be gained which can render museum practices friendlier¹⁸ and accessible for all ages.

Exploratory studies about museum programs and activities for older audiences in Latin America also look about these interactions. For example, in Mexico the access and use of museums with social determinant variables, like rural or urban origin, but also personal determinants like satisfaction results, and physical environment supporting active ageing was analyzed¹⁹ and in Brazil where conducted studies to understand institutional proposals to engage with people aged over 60 in this vast geographic region and across multiple museum settings.²⁰

Population data for Brazil shows the country has an estimated more than 30 million people aged 60 or older (almost 15% of total population).²¹ Projections show that, by 2030, older adults will outnumber children and adolescents aged 0-14 by 2.28 million and by 2050, over 60s will represent around 30% of the overall population.²²

The rise in the number of proposed interventions for older audiences over the past decade justifies a review of the literature on evaluation programs or actions that have engaged older audiences. A seminal Australian study started to look at this with socio demographic interest; leisure; learning interest; internet access and usage to understand older audience and possibilities that could be developed²³ after these other countries developed studies with this same profile of audiences, for example Portugal,²⁴ USA.²⁵

This review plots the current evidence and identifies gaps and state of the field. We have included any evaluations that might inform the evidence base as these include actions, activities, products and services, methods, research instruments and strategies as part of museography or museum practice. We included this from searching the grey literature often produced by museum professionals and housed in digital repositories.²⁶ With research conducted with museum studies they look to communicate the relevance of actions and outcomes, becomes the focus of many museum studies is about interconnecting the encompassing administration, assessment and part of curatorial process (acquisition, safekeeping and communication).²⁷

A study²⁸ extended beyond theories of education in museums and was a starting point that indicates that it allows us to connect other areas that deal with potential older audiences. This includes domains of psychology and educational gerontology,²⁹ environmental studies.³⁰ The interdisciplinarity found in these studies influenced the need for a broader review of the literature that explores museum as educational and socio-cultural spaces.

This review helps to inform policy makers, museums and curators along with others involved in this growing sector to consider aspects that can suggest how best to engage older audiences (those over 60) as well as the curators, museum staff and policy makers who offer and operate museum services.

31. Check Levac, Colquhoun e O'Brien (2010).

32. Check Arksey e O'Malley (2005), Levac, Colquhoun e O'Brien (2010) e Tricco *et al.* (2018).

33. Check Peters *et al.* (2015).

34. Check Araujo, Hinsliff-Smith e Cachioni (2020).

METHODS

Conducting the review

The present review was conducted according to the scoping review methodology of the Joanna Briggs Institute (JBI) and employed the PRISMA-ScR checklist (Preferred Reporting Items for Systematic reviews and Meta-Analyses for Scoping Reviews). Systematic reviews based on the PRISMA-ScR help systematize scoping analyses, a useful approach for answering broader questions, such as that explored in the present review: "How and in what form are museums engaging with older populations"? The approach seeks to map evidence in the literature on the topic and locate knowledge gaps and innovative approaches being used within a given discipline. This is conducted to identify sources and types of evidence addressing the issue, cataloguing the knowledge in political and practical terms.³¹ Such reviews allow the inclusion of a body of quantitative and qualitative literature³² and help map where the research being undertaken and which disciplines are conducting the work.³³

In accordance with the review procedure adopted, the search was based on a protocol research applying the study question, search strategy, article selection and extraction of data reported in available published literature.³⁴

Review question and objectives

Our review questions are:

1. How and in what form are museums engaging with older populations?
2. To identify evidence on interactions between museums and older audiences (aged over 60) either within the museum or in a community engagement setting internationally.

The review will focus on the following aspects:

Identifying the frameworks and tools being used by and in museums with older people

1. Identifying the characteristics or variables used by museums
2. Mapping work conducted with older adults and identifying which disciplines are engaged in conducting research.

Search strategy

We conducted searches on 8 databases including VHL – Virtual Health Library; Embase; Scopus; Web of Science; Scielo; Lilacs; Ageline and APA PsycInfo. We were aware that in many countries work may be conducted in this arena but not published in academic journals so academic databases (IBICT and RCAAP) for Masters and Doctoral repositories (Brazilian and Portuguese) museum studies were included so as to include studies in Portuguese or English from 2002 to May 2020.

The combined search terms in both English and Portuguese included: (1) *museu AND idoso* (Brazilian Portuguese); (2) *museu AND senior* (Continental Portuguese); and (3) *museum AND older people AND elderly AND aged*. The preliminary work was commenced in 2019 and revised in May 2020. The review dates are online with the seminal work conducted in 2002, *Energised, Engaged, Everywhere: Older Australians and Museums* conducted in Australia by Kelly, Savage, Landman e Tonkin (2002) who presented their work on people with 65 years and museums with a mixed analysis of cultural habits, internet access, leisure participation and interviews about perceptions in museums activities and interests.

Study inclusion and exclusion criteria

Population

The area of interest was older populations, although chronological age did not serve as an exclusion criterion in our searches. This is because the chronological definition of age varies from country to country. There is also no consensus on the chronological age that indicates elderly status. Many studies adopt a cut-off of 50 or over, while others use 65 years of age. Consequently, older audiences comprise a wide array of individuals, where this can be discussed according to the chronological contexts adopted by different countries. Therefore, chronological age

cut-off was not a selection criterion in the search for publications, given this limit is defined according to context. The age of 60 or over is a reference for classifying older adults in countries like Brazil, as stipulated by the World Health Organization (WHO) for developing or emerging countries.³⁵ This chronological age, however, may differ in international studies, where 65 years is more commonly used as the cut-off in Europe. Some studies justify a younger age because citizens accept early retirement and have incentives to join older groups.³⁶ Another important factor is what a population cut-off can represent within a population in general, for example, 25% of the population of Europe is over 55.³⁷ Thus, chronological cut-off age was not a criteria for exclusion or inclusion of the studies selected, bearing in mind that this concept serves merely as a reference,³⁸ with more weight given to the complex construction of age, whose "categorization is subject to change, as society and this group adapt according to the practical application of norms and actual experience, and not stereotyped over time".³⁹ Concerning gender, the samples of the studies reviewed comprised both men and women. Studies that considered or included one gender were still included as this was not a gendered focused review.

35. World Health Organization (2005).

36. Check Marcelino (2014).

37. Check Seccombe e Lehnies (2015).

38. Check Neri, op. cit.

39. Check Araujo, op. cit.

Concept

Relationships with older audiences supported by the areas in focus of museum studies, encompassing management, safeguard and communication.

Context

This review included studies which involved older people and established a relationship with museums as lifelong learning, cultural or social environments conducted within different settings (community, hospitals, long-term care facilities, and autonomous visitors) in literature with English or Portuguese language.

Study types

This review encompassed systematic reviews and other observational (cross-sectional and cohort), interventional (non-randomized and randomized controlled trials) empirical studies including qualitative and mixed methods studies. Reports, discussion documents and expert opinions were not included.

ARTICLE SELECTION PROCESS

Selection process

The search process was performed in two stages. First, a general survey of articles matching descriptors and respective reading of titles and abstract was carried out by 2 reviewers (AO and CM) independently. The assessment of each article was conducted by two reviewers (AO and CM) with an agreed criterion and with regular interactions and use of a spreadsheet to capture any queries or disagreements. Articles meeting the inclusion criteria and focusing on programs implemented by or in museums involving older audiences were selected (see Appendix A).

The search strategy and process of selecting eligible articles employed is depicted in the Prisma-ScR diagram of Figure 1 - Diagram PRISMA - ScR. Search strategy and studies selection process.

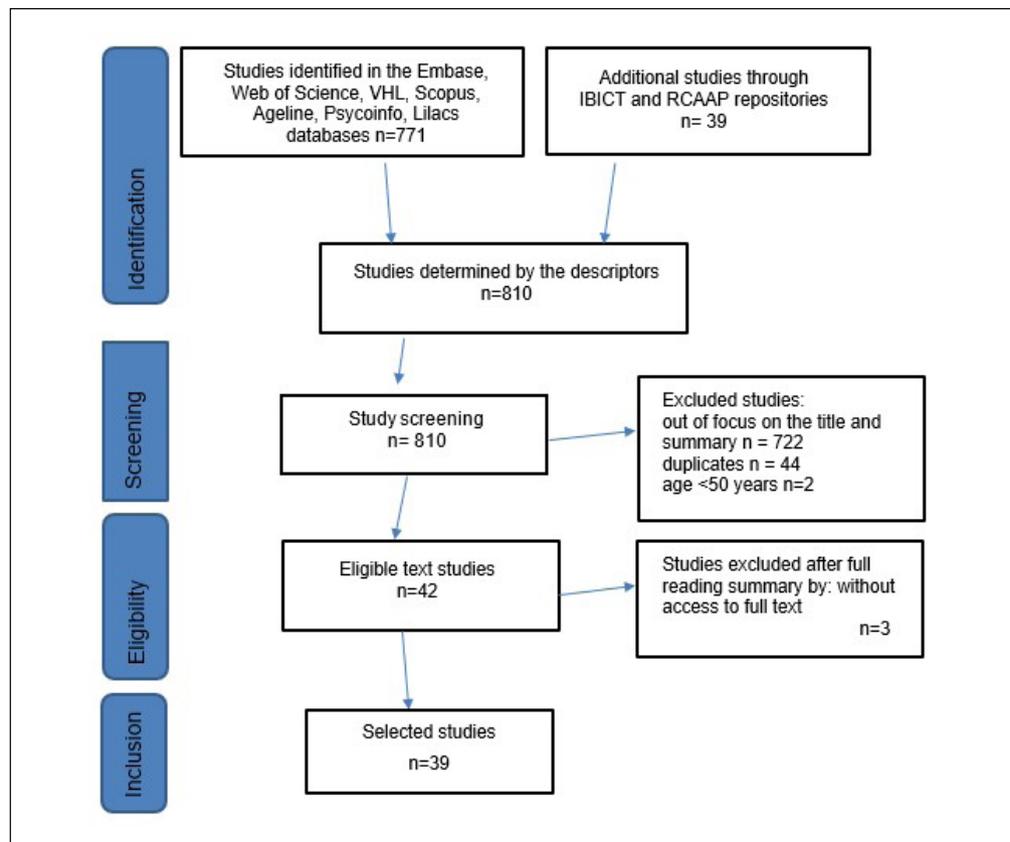


Figure 1 – Diagram PRISMA – ScR. Search strategy and studies selection process. Prepared by: Susana Costa Coito e Araújo (2021).

Data presentation

A specific chart was devised for this review, recording the following bibliographic details: article title, authors, year of publication, country, general or specific audience (e.g. in community, hospital, primary care, long-term care settings, individuals with dementia, cancer, pain etc.), museum area, study objectives, all study types (qualitative, quantitative, mixed methods), knowledge area, study design, museum and audience sample (size and age), research setting (local, regional, national, transnational) and reported results. A data presentation table was produced, based on the extracted data, grouped according to publication year and aspects like identifying the frameworks and tools being used by and in museums with older people.

Studies that met the inclusion criteria were retrieved in full and their details placed into Appendix A of the present article. References were imported into the Endnote Web library database and are available in the Appendix containing the research material.

FINDINGS

This review investigated how museums engage with older audiences, searching for all related articles published during the period spanning from 2002 to May 2020. A total of 39 articles met the inclusion criteria and were published from 2010 onwards, of which 85% were published between 2014-2019 demonstrating the growing interest in this area.

In reviewing the 39 articles identified key interests of what type of engagement and geographic location, methodologies applied and the reported relationship and interactions between museums and older adults.

40. Check Roe *et al.* (2014), Silva (2010) e Thomson e Chatterjee (2016).

41. Check Sá (2016).

42. Check Gonzalez e Guerrero (2016).

43. Check Guarita (2017).

44. Check Smiraglia (2015).

45. Check Thomson *et al.* (2012).

46. Check Koebner *et al.* (2018).

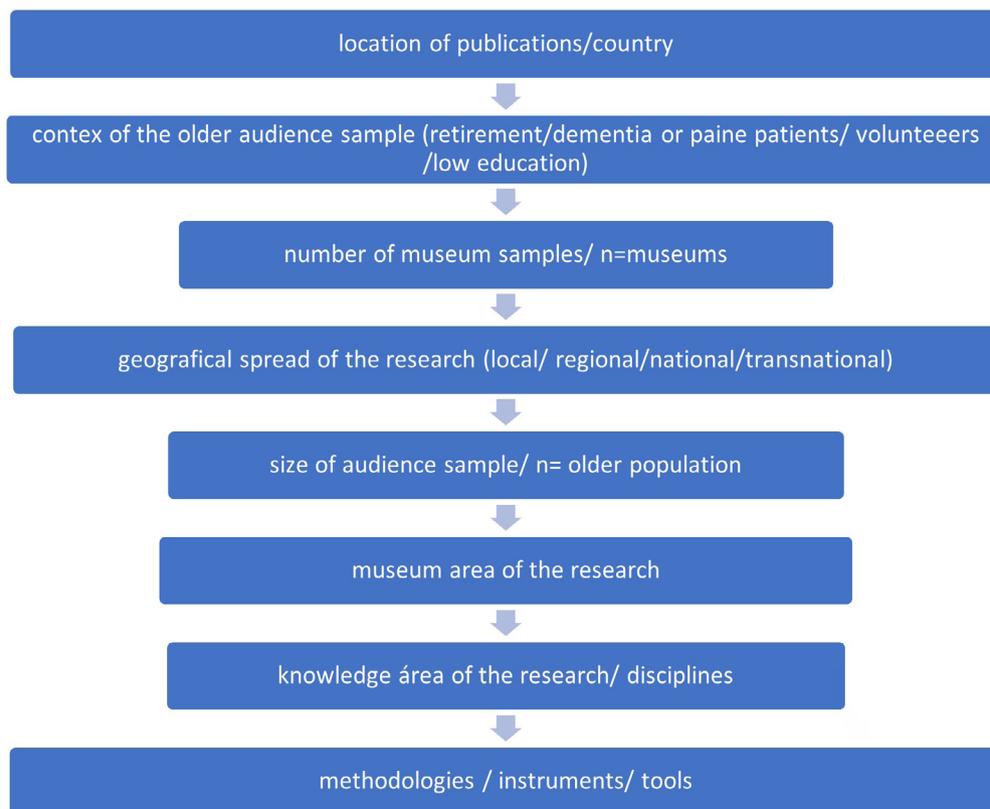


Figure 2 – Findings presentation. Prepared by: Susana Costa Coito e Araújo (2021).

Only two English-speaking countries produced articles that met our inclusion criteria (n=22), with the majority conducted in the UK (13) and the USA (9). A high number of studies were carried out in Brazil (6) and Portugal (5) and a further 6 from European countries, Germany (1), Denmark (1), Spain (1), Finland (1), Holland (1) and Sweden (1).

In terms of participant characteristics across the 39 included studies, there was a wide variance in what was classed as an older audience.

And 18 studies drew on samples from the general population of older adults involved with proposals of museums. Diverse context sample characteristics are relevant as they demonstrate the diversity of the target population. Of the studies 13 focused on older adults with different types of dementia, while 3 publications were conducted with residents in long-term care facilities.⁴⁰ Other studies focused on samples of individuals from day-care centers,⁴¹ older adults as volunteers in museum activities,⁴² participants with low education,⁴³ retired/pensioners⁴⁴ and patients receiving treatment for cancer⁴⁵ or chronic pain.⁴⁶ It is difficult to report the overall

age demographic of the included studies as only 18 of the 39 reported this so no conclusions can be drawn.

47. Check Hendriks *et al.* (2019).

48. Check Smiraglia (2016).

Categories of audience sample context	number of studies	Percentage
General category	18	46%
Specific audience in daily center	1	3%
Specific in LTCH	3	8%
Specific interest in volunteering	1	3%
Specific retired	1	3%
Specific with dementias	12	31%
Specific low education level	1	3%
Specific with cronic pain	1	3%
Specific with cancer	1	3%
	39	100%

Figure 3 – Categories of audience samples context. Prepared by: Susana Costa Coito e Araújo (2021).

Over half of the 39 studies (54%) involved only one museum setting with the remainder exploring 2 to 9 sites (n=11), one study had over 10 museums,⁴⁷ whilst another study recruited and engaged with over 100 museums in a literature review of programs implemented based in museum programs presented by museum professionals.⁴⁸ In our review, we included systematic reviews in order to compile the latest evidence and to provide a map of the work undertaken in this sector.

Museum samples in the study	number of studies	Percentage
n=1 museum	21	54%
n=2	6	15%
n=3	2	5%
n=4	1	3%
n=7	2	5%
n+10	1	3%
n+50	0	0%
n+100	1	3%
not informed	5	13%
	39	100%

Figure 4 – Sample number of museums. Prepared by: Susana Costa Coito e Araújo (2021).

In terms of geographical spread, the location of museums across the 39 sources varied. Twenty-five studies took place in one location, eight had more than one City location and covered a region, and three conducted exploratory studies

49. Check Fancourt, Steptoe e Cadar (2018), Gonzalez e Guerrero, op. cit., e Silva (2016).

50. Check Araujo, op. cit., Cunha *et al.* (2019) e Smiraglia (2016).

51. Check Cunha *et al.* (2019).

52. Check Bennington *et al.* (2016), Cachoeira (2018), Gomes (2016) e Silva (2010).

53. Check Hendriks *et al.* op. cit., Johnson *et al.* (2017), Koebner *et al.*, op. cit., Oliveira (2019) e Thomson *et al.* (2012).

54. Check Livingston *et al.* (2016), Smiraglia (2015) e Thomson *et al.* (2018).

55. Check Scherger, Nazroo e Higgs (2011).

in a national panorama in UK, Spain and Brazil.⁴⁹ A further three developed research that had an international dimension focusing on productions or programs for older people in more than one country which was an international panorama using digital resources in museum sites.⁵⁰

Research context categories	number of studies	Percentage
local	25	64%
regional	8	21%
national	3	8%
transnational	2	5%
local and transnational	1	3%
	39	100%

Figure 5 – Research context geographic categories. Prepared by: Susana Costa Coito e Araújo (2021).

The number of participants also the study location were not uniformly included in the 39 included studies these characteristics were more clear in the mixed methods studies and in the systematic review about dementia.⁵¹

Across the 39 articles a range of population/audience samples were: four studies with less than 10 individuals are qualitative research.⁵²

Regarding sample size: 16 publications contain samples involving 11 and 50 individuals; five contain studies with 51 and 100 individuals;⁵³ three articles involved samples of 100 individuals to 500.⁵⁴

One article drew on the English Longitudinal Study of Ageing (ELSA), a seminal interdisciplinary study in gerontology and based on a large database sample of over 3400 individuals and involving museums as part of cultural engagement.⁵⁵

Audience sample size	number of studies	Percentage
n<10	4	10%
n>11<50	16	41%
n>51<100	5	13%
n>101<500	3	8%
n>501<1000	0	0%
n>1001	1	3%
not informed / not applicable	10	26%
	39	100%

Figure 6 – Audience sample size. Prepared by: Susana Costa Coito e Araújo (2021).

The review includes 10 articles that did not provide any demographic sample details (some because are literature or program reviews).

The 39 included articles focused on museum studies as a knowledge area that deals with heritage, territory and society looking at all topics areas, but also in practices that occur in museum institutions⁵⁶ helping to show which sectors within the institutions engage with older audiences. Figure 2 provides an overview of the different aspects of a museum engaged with older audiences in different museum studies areas.

Management	Safeguarding collections	Communication
Management of museums, resources, collections, audiences ...	Preservation, documentation, restoration, and conservation ...	Exhibition, education sector, publications ...

Figure 7 – Museum studies areas. Prepared by: Susana Costa Coito e Araújo (2021).

Museum practice areas summarizes the different areas identified in these 3 boxes: museum management (administration), safeguarding (conservation, documentation) and communication (exhibitions, educational work, publications). In the review, the studies were grouped identifying which were produced with this focus.

All the included studies (n=39) related broadly to differing aspects of communication; exhibitions, educational programs, publications with 22 offering an educational offering with older audiences such as guided visits, artistic activities, conversation circles, analysis of works or objects, testimonials and games.

The key focus for the literature appears to be in the area of dementia within older populations. Fourteen articles report interventions across seven countries working in this area.⁵⁷ Of these, two based in the UK, had an art gallery-based intervention for older people with dementia and their cares.⁵⁸ A further topic explored was that of health and well-being. For example, the study by Thomson et al. (2012) with hospitalized cancer patients discussing museum objects with a facilitator on a one-to-one bedside approach. Another UK study⁵⁹ used museum objects handling sessions to achieve clinical evaluation in long term care house and hospitals.

Eight articles approach to general audience of older populations interacting with the education sector: two are publications from the same study in seven UK museums about psychological well-being;⁶⁰ one about education in community as a successful aging strategy;⁶¹ two about art-education programs in museums;⁶² two articles about education programs review⁶³ and one about retirement people.⁶⁴

Whilst nine focused on double relations between exhibitions but also what would be classified as educational activities: about mediations of exhibition and

56. Check Desvallées e Mairesse (2013).

57. Check Belver (2018), Cunha *et al.*, op. cit., Flatt *et al.* (2015), Gomes (2016), Hendriks *et al.* op. cit., Humble e Schwartz (2012), Johnson *et al.*, op. cit., Livingston *et al.*, op. cit., Miles *et al.*, op. cit., Roe *et al.*, op. cit. e Schall *et al.* (2018).

58. Check Camic, Baker e Tischler (2016) e Camic, Tischler e Pearman (2014).

59. Check Thomson e Charterjee (2016).

60. Check Thomson *et al.* (2018) e Todd *et al.*, op. cit.

61. Check Antunes e Jesus (2018).

62. Check Bennington *et al.*, op. cit. e Galvanese *et al.* (2014).

63. Check Silva (2016) e Smiraglia (2016).

64. Check Smiraglia (2015).

65. Check Guarita, op. cit.
66. Check Silva (2010).
67. Check Cachoeira, op. cit., Goulding, op. cit., Hansen e Zipsane (2014), Newman, Goulding e Whitehead (2014) e Scherger, Nazroo e Higgs, op. cit.
68. Check Alelis, Bobrowicz e Ang (2015).
69. Check Cunha *et al.* (2019).
70. Check Fancourt e Steptoe (2018), Koebner *et al.*, op. cit., Oliveira, op. cit. e St Jacques, Montgomery e Schacter (2014).
71. Check Pereira (2016).
72. Check Sá, op. cit.
73. Check Gonzalez e Guerrero (2016).
74. Check Araujo (2016).

activities for older adults with lower education level;⁶⁵ also one focused in people that live in long term care house;⁶⁶ understanding the involvement of general older audiences with both exhibitions and educational programs in border approaches,⁶⁷ a comparison of presential activities with digital approaches,⁶⁸ and a systematic review focus on both museums communications ways and dementia.⁶⁹ Another four studies analyzed the audience within exhibitions only.⁷⁰

Studies were also found with a focus on museum management and administration issues for engaging with older audiences. For example, discussing discounts structures,⁷¹ visitation strategies and habits,⁷² socio economic value of engaging with older adults as volunteers⁷³ and one study explored participation of heritage preservation and communication.⁷⁴

Discipline and Methodologies

The discipline areas that undertook analyses on the relationship of older adults with museums was psychology plus gerontology (14), museum studies including museum management (7), art together with health sciences and occupational therapy (5), interdisciplinary studies (5), followed by education (3) as long-standing partners of museums research. Other knowledge areas which featured in the review were social sciences (2), language (1), scientific publications (1) and information technology (1).

Studies from very different areas used mixed method or multimethod research: 18 articles were based on semi-structured interviews, questionnaires individually or via focus groups encompassing not only visitors but also museum professionals or caregivers, using content analysis as the data analysis method. Participatory or field ethnographic research was cited as the approach used in five publications normally use in qualitative research. 7 publications were literature reviews on museum interventions programs with older adults important to understand the panorama of museum actions with older adults' audience.

Comparative focus is perceived in six articles reported pre-and post-intervention assessments, while another two contained control groups. Previously validated scales and instruments were employed in the studies of 14 publications.

Only one study used a pre-existing database (ELSA- English Longitudinal Study of Ageing), whereas one study failed to report the assessment technique used.

Of the 39 included articles close to half were qualitative in design (18), a further 14 articles used a mixed methods approach and 7 were purely quantitative

with different measures instruments and scales used like PANAS (Positive Affect Negative Affect Scale) and VAS (Visual Analogue Scale) and a scale developed for museum approaches Museum Wellbeing Measure for Older Adults scale (MWM-OA).

DISCUSSION AND CONCLUSION

This review shows relationships between populations with the museum sector is stimulated by an educational function in the broadest sense. Museums have traditionally greater engagement with a range of visitors with evidence for beneficial outcomes that we categorize in terms of socialization, wellbeing, learning and cognitive preservation.

The recent interest in how the relationship between museums and older adults is established, results in existing literature that appears promising for communities and museums as the review indicates. A rise in visitor numbers is expected, driven by the demographic expansion and increased demand for sociocultural activities, while various disciplines promote studies analyzing how this engagement promotes benefits in diverse audiences of older adults.

This scoping review provides a summary of evidence and catalogues the literature on study's emphasis on assessment instruments employed and types of studies and variables, allowed the definition of categories for conducting receptive studies, whilst mapping techniques and study sources used. Regarding studies design and instruments we point out that should be noted only one included study used several instruments. All choices used should be pondered for future research conducted as possible instruments.

Different profiles and subgroups of older adults were analyzed by the studies, showing that museum engagement can lead to improvements for individuals as well as society, as advocated by guidelines of social museology, all museums actuate in society but since the second half of 20st century the debate becomes important because some museums actions are committed with etic issues, especially with scientific and politic dimensions with specific groups.⁷⁵

In the articles included, older populations were classed as one group regardless of age or health status but in some cases this was considered in the different categories of interaction, interests or specific health characteristics (e.g. residing in long-term care facility or attending day centers, pensioners, individuals seeking volunteer activities or patients with a particular clinical condition).

Gerontology supports the relationships with these audiences through both theory and practice in a diverse way to establish closer outcomes.

Analysis of the reported findings from the 39 included articles indicates that socialization was the most frequently reported outcome (21 studies), through reducing isolation/withdrawal, expanding social networks and increasing social inclusion. The wellbeing variable was commonly cited (15 studies) and found to be associated with the term's "satisfaction" and "improved mood".⁷⁶ The opportunity to learn regardless of age was an aim of 12 studies, either as a lifelong learning strategy, occupation or as a way of increasing cultural capital (with references to artistic, digital and attitude capital), and not just with respect to visitors, but also encompassing professional teams and companions. Cognitive preservation was cited by nine studies, quality of life by four, increased self-esteem was an outcome in three studies, while the generativity concept was addressed in three publications. Lastly, 64% of the studies reported outcomes for two or more variables in the results. This leads us to understand or believe that positive psychological variables are found in these relations.

Descriptive and experimental studies are of special relevance when mixed and quantitative measurements can be made that justify the impacts and investments. Well received by academia and policy makers, these methods of analysis (54% of studies) proved a common alternative to qualitative studies (46% of publications). The more quantitative analysis and research techniques elected can be complementary depending on objectives and settings. Although qualitative studies are more traditionally used, the use of instruments such as closed-ended type questionnaires and scales can enable this type of analysis.

The studies included in this scoping review allowed identification of four areas impacted when museums promote a process of relationship as friendly spaces for all ages which favor active aging.

The impacts of the relationships of museums with older adults interact to promote quality of life in individuals and the community, permeating several dimensions as depicted in Figure 3 - Impacts according to results found in studies.

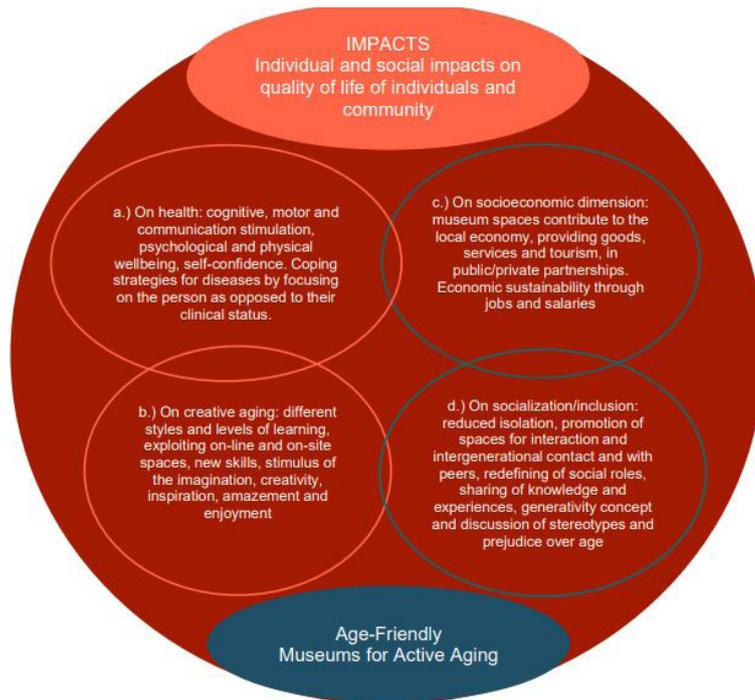


Figure 8 – Impacts found in studies. Individual impacts a.) / b.) and social impacts c.) / d.). Prepared by: Susana Costa Coito e Araújo (2021).

On a more individual level, the importance of the health aspect is evident a.) cognitive;⁷⁷ motor and communication stimulation, psychological⁷⁸ and physical wellbeing; particularly self-confidence and self-esteem.⁷⁹ These spaces enable coping strategies for diseases through focus on the person as opposed to their clinical status bringing benefits.⁸⁰

For the dimension of socioeconomic impact on the community c.) museum spaces contribute to the local economy, providing goods, services and tourism, but can also lead to public/private partnerships.⁸¹ Economic sustainability is achieved through jobs or activities⁸² and salaries or economic possibilities.⁸³

More visible in nature, the relationship in terms of d.) socialization/inclusion can reduce isolation,⁸⁴ promote spaces for interaction and intergenerational contact and with peers,⁸⁵ redefine social roles,⁸⁶ sharing knowledge and experiences,⁸⁷ revealing application of the generativity concept and discussion of stereotypes and prejudice, cohesion and respect.⁸⁸

Lastly, through the tradition of studies on the link between museums and education, the relationship in the elderly population can support creative aging b.) through life-long learning in different styles and levels,⁸⁹ exploiting on-line and

77. Check Fancourt, Steptoe e Cadar, op. cit., Miles *et al.* (2013) e St Jacques, Montgomery e Schacter, op. cit.

78. Check Johnson *et al.*, op. cit.

79. Check Antunes e Jesus, op. cit., Bennington *et al.*, op. cit., Galvanese, op. cit., Newman *et al.*, op. cit., Roe *et al.*, op. cit., Smiraglia (2015, 2016), Thomson *et al.* (2018) e Thomson e Chatterjee (2016).

80. Check Belver *et al.*, op. cit., Camic, Tischler e Pearman, op. cit., Cunha *et al.*, op. cit., Flatt *et al.*, op. cit., Hendriks *et al.*, op. cit., Koebner *et al.*, op. cit., Livingston *et al.*, op. cit., Schall *et al.*, op. cit., Thomson *et al.*, op. cit.

81. Check Humble e Schwartz (2012) e Roe *et al.*, op. cit.

82. Check Gonzalez e Guerrero, op. cit. e Scherger, Nazroo e Higgs, op. cit.

83. Check Pereira, op. cit. e Silva (2016).

84. Check Araujo (2016), Belver *et al.*, op. cit., Livingston *et al.*, op. cit., Roe *et al.*, op. cit. e Sá, op. cit.

85. Check Camic, Tischler e Pearman, op. cit., Galvanese *et al.*, op. cit., Goulding, op. cit., Oliveira, op. cit., Silva (2010), Smiraglia (2015, 2016) e Thomson *et al.* (2018).

86. Check Cachoeira, op. cit., Gonzalez e Guerrero, op. cit. e Newman, Goulding e Whitehead, op. cit.

87. Check Bennington *et al.*, op. cit. e Silva, op. cit.

88. Check Gomes, op. cit., Guarita, op. cit., Hansen e Zipsane, op. cit., Oliveira, op. cit., Roe *et al.*, op. cit.,

Schall *et al.*, *op. cit.*, Thomson e Chatterjee, 2016 e Todd *et al.*, *op. cit.*

89. Check Antunes e Jesus, *op. cit.*, Araujo, *op. cit.*, Goulding, *op. cit.* e Sá, *op. cit.*

90. Check Alelis, Bobrowicz e Ang, *op. cit.*

91. Check Roe *et al.*, *op. cit.* e THOMSON *et al.* (2018).

92. Check Silva (2010).

93. Check Instituto Brasileiro de Geografia e Estatística (2015).

94. *Id.*, 2013.

95. Check World Health Organization (2005).

on-site environments,⁹⁰ new skills, stimulus of the imagination, creativity,⁹¹ inspiration, amazement and enjoyment.⁹²

The review supports the devising of research instruments to characterize older people as a museum audience visiting or taking part in museum activities, to yield data to help address the lack of audience and receptive studies, much needed by the cultural and museum studies sector in Brazil.

Conclusion

How and in what form museums are engaging with older populations could be identified with evidence in the studies that reveal different types of interactions between museums and older audiences either within the museum or in a community engagement setting internationally.

This review identifies relationships and the types of work conducted in this important area as outlined by the Organization for Economic Co-operation and Development (OECD) (2018).

The review enables a broader comprehension of the work conducted in this area and identifies the type of initiatives and gaps that can be plugged in this area. Older populations are set to grow and with a global ageing population predicted having the foresight to consider the beneficial effects to older populations can only aid the health and well-being of society.

In Brazil, the triangular shape of the pyramid population, with a broad base, has given way to a typical age pyramid of an aging population, with a reduction in the relative participation of children and young people and the proportional increase in adults and elderly people. Brazil is going through a period of accelerated demographic aging, with important implications for individuals, families and society.

The population segment that increases the most in the Brazilian population is that of elderly, with growth rates of more than 4% per year in the period from 2012 to 2022. Population aged 60 years and over increases from 14.2 million in 2000 to 19.6 million in 2010, expected to reach 41.5 million in 2030 and 73.5 million in 2060.⁹³

The country has a predicted ageing population of 30% of people of 60 and over in 2050.⁹⁴ This review has identified a lack of work conducted in Brazil or with these older populations. In a country that would have the 6th largest older population in the World⁹⁵ there is much scope for the sector to develop a rigorous

program of activities which not only stimulate older populations but engage with a wider audience long term.

Educational and social relationship between museums and older people should focus on proposals for potential of engagement also inclusion and participation to benefit the community and individuals. Findings show different approaches of interaction with the diversity of older audiences with different strategies in museum actions attending different levels of interests, autonomy, health, socio economic contexts. Mirroring innovative attitudes found in the international literature⁹⁶ could prove a winning formula for museums. There are museums already producing research to evaluate their programs including work and practices with publications in grey literature.⁹⁷

This review is timely due to the changing demographic nature of populations in around the World. This is pertinent as many museums are seeing a decline in younger populations visiting museums except for purely educational purposes such as school visits.

The results of this review can bring information for policy makers, museums professionals that still don't work with older audiences but also involve this sector to consider aspects that can suggest how can best engage older people with museum services as possibilities of positive individual and social impacts.

In Latin America the researchers should look to understand who the older audiences and the non-visitors 60+ are to develop new approaches and look for findings of impacts after these relationships.

Polyphonic dialogues in museum, listening and engage different types of audiences and social identities can foster intergenerational activities and expand understanding of the world about the past, but also positively impact the future of generations of all ages and social diversity.

96. Check Arnott *et al.*, 2018 e Hovi Assad (2016).

97. Check Desmarais, Bedford e Chatterjee, *op. cit.*, Lackoi, *op. cit.* e Robertson, *op. cit.*

Appendix A

1 – Selection Database research, 2020.

Data 02/06/2020	Set	Estratégia de pesquisa na base	Resultados	Form do conteúdo	idade < 50 anos	duplicat	excluído	sem acesso	Sabros
BVS	1	tw:{tw:({tw:(museum) AND (tw:(idoso))}) AND (year_cluster:{2002 TO 2019})} AND (la:("en" OR "pt")) AND (year_cluster:{2002 TO 2019})	45	27		3	30		15
EMBASE	2	{museum/txp OR museum} AND ('older people/txp OR 'older people' OR (older AND people)) AND (2002-2019)/pyj	62	56		3	59		3
Scopus	3	{ TITLE-ABS-KEY (museum) AND TITLE-ABS-KEY (older AND people) } AND PUBYEAR > 2001 AND PUBYEAR < 2020 AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Portuguese"))	261	252		3	255	1	5
Web of Science	4	TOPIC: (museum) AND TOPIC: (older people) Refined by: LANGUAGES: (ENGLISH OR PORTUGUESE) AND PUBLICATION YEARS: (2019 OR 2014 OR 2009 OR 2004 OR 2018 OR 2013 OR 2008 OR 2003 OR 2017 OR 2012 OR 2007 OR 2002 OR 2016 OR 2011 OR 2006 OR 2015 OR 2010 OR 2005) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=1900-2019	158	145		8	153		5
Scielo	5	museum' AND 'elderly' (2002 a 2019)	6	5	1		6		0
Scielo	5	museum' AND 'aged' (2002 a 2019)	6	5	1		6		0
Scielo	5	museu' AND 'idoso' (2002 a 2019)	0						0
Scielo	5	museu' AND 'senior' (2002 a 2019)	1	1			1		0
Scielo	5	museum' AND 'older people' (2002 a 2019)	0						0
Lilacs	6	*museum* AND *idoso* (2002 a 2019)	5	2		3	5		0
Lilacs	6	museum' AND 'aged' or "older people" (2002 a 2018)	8	5		3	8		0
Lilacs	6	*museum* AND *senior* (2002 a 2018)	0						0
Ageline	7	museum AND (older adults or elderly or geriatric or geriatrics o...Expansores Remove:Aplicar assuntos equivalentes Limitadores Remove:Ano da publicação: 2002-2019	64	59		3	62		2
Psycinfo	8	Results for Any Field: museum AND Any Field: older people AND Year: 2002 To 2019	148	136		10	146	2	0
Psycinfo	8	7 Results for Any Field: museum AND Any Field: elderly AND Year: 2002 To 2019	7	4		3	7		0
IBICT teses	1	museu' AND 'idoso' (2002 a 2018)	12	7					5
RCAAP	2	museu' AND 'senior' ABSTRACT/ Eng #Pot (2002 a 2019)	10	7			7		3
RCAAP	2	museus' AND 'idosos" (2002 a 2019) ABSTRACT/ Eng #Pot	13	9		3	12		1
RCAAP	2	museu' AND 'idoso" (2002 a 2019) ABSTRACT/ Eng #Pot	4	2		2	4		0
		TOTALS	810	722	2	44	761	3	39

Prepared by: Susana Costa Coito e Araújo (2021).

Appendix A

2 – Selected Studies. n=39, 2020.

Article Name	Author /Country Publication Year	General audience / Specific audience	Thematic area	Study Objectives	Type of Study / Sample size	Research draft	Variables/Instruments	Interventions	Museum sample	Audience sample	Context	Results/Conclusions	Databases
1	Análise do impacto de atividades externas de lazer na vida de residentes de uma instituição de longa permanência: O caso do lar Nossa Senhora da Saúde	Ana Carolina Silva Brasil (A. C. L. Silva, 2019)	Communication, exhibition and education	To study the impact of external leisure activities on the lives of residents in Belo Horizonte	qualitative	After visiting the zoo and museum arts and crafts, interviews were conducted with people without cognitive impairments.	semi-structured interviews	visitation	n=2 museum (arts e oficinas e zoológico)	n=6 (67.86 years)	local	The elderly had never experienced such an experience and pointed out that it was new experiences coming out of the routine of homes and making life more pleasant. Leisure activities as a source of rest, fun, development, social interaction and integration	BIBNET
2	Leisure activities and retirement do structures of inequality change in old age?	Simone Scherger, James Nazroo, Paul Higgs (Scherger, Nazroo, & Higgs, 2011)	General Audience	Knowing the transition role for retirement and participation in three activities and whether inequalities underlying these activities change with old age and retirement.	qualitative	English Longitudinal database usage Study of Aging (ELSA) observing 3 items cultural activities (going to the movies, theater /opera / classical music performances, visiting museums and galleries), having a hobby, and membership in a club or association (including committee work).	Database analysis of socio-economic differences and patterns of leisure activities		n=1 museum	not informed	local	Being retired makes it possible to have a hobby and participate in cultural activities, denied to those who are permanently ill or with disabilities. The unmarried or those who do not live with someone participate more outside the home. Older people are less engaged than younger people education and occupation reduces the effects of age such as health control, differences within age can be explained by educational differences and occupation of cohorts.	Agebase
3	museum Programs for People with Demencia: Effects on Program Participants, Practitioners and host Institutions	Laurel Humble, Meryl Schwartz (Humble, 2012)	Specific people with dementia	Assess the effects of programs for people with dementia (early stage) in participating museums and institutions that receive them	qualitative	online search for museums that have programs (qualitative) and validated scales (quantitative)	battery of self assessment scales	specific educational program for people with dementia	not informed	not informed	regional	Record of practitioners' quality of life benefits on the following day and days, the programs make educators consider new ways of serving older audiences. In addition, greater public awareness of dementia among museum workers in general	EMBASE
4	Enhancing Cancer Patient Well-Being With a Nonpharmacological, Heritage-Focused Intervention	Linda J. Thomson, Frica E. Ander, Lisha Menon, Anne Lancetree, Helen J. Chatterjee (L. J. Thomson, Ander, F. E. Menon, L. Lancetree, A. & Chatterjee, H. J., 2012)	Specific people with cancer	Examine the effectiveness of non pharmacological interventions, focused on heritage with impacts receiving cancer treatment in central London hospital oncology wards	quantitative	Participants manage discuss a selection of museum objects with a facilitator, while in the condition of control, the participants discussed photographs of the same objects. The sessions were conducted on a one-to-one basis in the patient's bed and lasted about half an hour. Quasi-experimental study	PANAS (Positive Affect Negative Affect) Scale and visual scale (VAS)	Quantitative measures of psychological well-being with proven reliability and validity were used in a pre-test / post-test control group	n=1 museum/ims	n = 79 with objects and 21 with photos (age 21-85)	local	Levels of positive emotion, well-being and happiness increased significantly in the experimental condition compared to the control condition for oncological and non-oncological patients. The results indicate a future role for practices focused on heritage in improve health care environments	BVS
5	Lifelong Learning for People Aged 64+ Within the Contemporary Art Gallery Context	Anna Goulding (Goulding, 2012)	General Audience	Collect data on lifelong learning for post-retirement people. The paper investigates the impact of involvement with contemporary art	qualitative	In 21 months, participants made three visits to contemporary art galleries and were interviewed before and after each visit.	Interviews		n=2 museum	n = 43 elderly (several group 64+)	local	Participants noted considerable benefits from the visits, intellectually stimulating and enjoyed social interaction. The debate was stimulating and challenging. They linked art to personal lives and valued the passage of knowledge about their grandchildren, which made them feel that they were contributing to society. State services and society need to think on preventive measures.	Scopus
6	Turning back the hands of time: autobiographical memories in dementia coed by a museum setting	Amanda N Miles, Lisa Fischer-Mogensen, Nuala H. Nielsen, Sine Hermansen, Dorthe Herrison Dammarca (Miles, Fischer-Mogensen, Nielsen, Hermansen, & Bernsten, 2013)	Specific people with dementia	To know the effects of the recovery of autobiographical memory in people with dementia other immersion in a historically authentic environment, as a natural and cultural context of youth.	qualitative	The conversations were coded for memory content based on an adapted version by Levine, Svoboda, Hay, Winmar and Moscovitch (2002).	analysis of autobiographical report, details and spontaneity	Comparison between control group and museum visiting group	n=1	n=12	local	The memories recovered in the museum setting were quantitatively and qualitatively different from the memories recovered during a control condition.	BVS
7	Modifying memory for a museum tour in older adults: Reactivation-related updating that enhances and distorts memory is reduced in ageing	Peggy C. St Jacques, David Montgomery, Dorthe Schacter (St Jacques, Montgomery, & Schacter, 2014)	General Audience	Evaluate and compare young and elderly adults regarding age-related changes in the quality of memory reactivation in subsequent memory	quantitative	Participation in 3 sessions in museums that have never visited a visit with audio guide, photo analysis of the audio guide stop-points, photo viewing and recognition in the third session with a difference of 48 hours between them	Analysis of true and false memories (real reactivated memory and built) to test recognition memory	Museum visit: intervention with photos of S'OP points with true and false images to assess perception and memory; again viewing photos for recognition of reactivated memory (every 48 hours)	n=2 museum	n = 16 (in age 73 years) and n = 16 younger people with a mean age of 21 years	Local	Ageing alters the updating processes related to reactivation that allow memories to be strengthened and updated with new information, consequently reducing distortions in older adults compared to young adults. It can be beneficial in reducing distortions in older adults, but it comes at the cost of a reduction in the ability to update memory.	BVS
8	Contemporary visual art and the construction of identity: maintenance and revision processes in older adults	Andrew Newman, Anna Goulding & Chris Whitehead (Newman, Goulding, & Whitehead, 2014)	General Audience	Understand how older visitor's use meanings created through encounters with contemporary visual art in art galleries to maintain and review identity processes.	qualitative	Discussions between 30 and 120 min digitally recorded and transcribed. The resulting 56 transcripts were encoded using NVivo 8 software (manages data). The coding was based on the existing categories identified in the theory and other theories that originated from readings close to the data by the research team	Discourse analysis in focus groups		n=3 museum	n = 38 elderly (several group 69-90 years)	local	They created meanings through meetings to maintain and review identity. Those who had no cultural capital to decode works of art, often created symbolic meanings that define existing or current identities. Some participants struggled to decode the works of art; some developed a commitment to try, others rejected. Those who wanted to develop this area used the visits to explore and deepen, the described process contributed to the well-being and self-esteem of the participants.	Scopus
9	Older people as a developing market for cultural heritage sites	Anna Hansen, Henrik Zappane Sævi (Hansen & Zappane, 2014)	General Audience	Justify approaching the Jamli museum as a cultural product for the elderly	qualitative	Description of examples for investment in tourist attraction and at the same time a space for learning and social inclusion	Literature review		n=1 museum	not applicable	local	The museum can help encourage attitudes of understanding, respect and cohesion. The growing number of elderly people is a target group that the heritage sector must address. It is a market in development of activities that seek learning and social cohesion and for commercial activities, both to show the lives of older people have been in the past and the elderly as important paying visitors.	Scopus
10	Viewing and making art together: a multi-session art-gallery-based intervention for people with dementia and their carers	Paul M. Camie, Viktoria Teichler and Christl Helen Pearman (Camie, Teichler, & Pearman, 2014)	Specific people with dementia	Examine the impact of social inclusion, burden of caregivers, quality of life and activities of daily living	qualitative	Pre- and post-intervention questionnaires with recording sessions	questionnaires and interviews for thematic analysis: Life Questionnaire (DLMOQI-4) (Smith et al., 2005), a 4 item Likert Scale with 29 points. Caregivers completed the inter-new Zarit Burden (ZBI) (Zarit, Reever, & Bach-Peterson, 1980) and Bristol Activities of the Daily Living (BADL) scale (Bucks, Ashworth, Wilcock, & Spegel, 1996)	8 weeks of intervention	n=2 arte traditional vs arte contemporanea	n=24 (12 with dementia and 12 without)	local	Improvement in the promotion of social inclusion and engagement, improvement in the care relationship between caregivers and people with dementia, stimulation of cognitive and attention and concentration processes.	Scopus

11	A produção de acesso da população idosa ao território da cultura, uma experiência de Terapia Ocupacional num museu de arte	Ana Galvanese, Sylvia Coutinho, Erika Inforzano, Elizabeth de Araújo Lima Brasil (Galvanese et al., 2014)	General audience	Communication education in museums	Evaluate Lecture with Art for the Elderly program (LAPIT) Museum of Contemporary Art - MAC-USP	qualitative	arts & OT	Application of the program of the Technical-Scientific Division of Education and Art of the Museum of Contemporary Art - MAC-USP, in partnership with LICAR occupational therapy	Analysis of learning and socialization relationships (instrument or method not mentioned)	Workshops	n=1 museum	not informed	local	Possibility of expressing emotions and opinions, promoting environment of holding strategies, and restoring self-confidence and socialization	BRVS
12	Comparison of engagement and emotional responses of older and younger adults interacting with 3D cultural heritage artifacts on personal devices	Genevieve Aleix, Asia Bobrowicz, Chee Sang Ang (Aleix, Bobrowicz, & Ang, 2015)	General audience	Communication education and education	Understand how visitors engage in three different modes: augmented reality on a tablet, 3D models on a laptop, and physical artifacts.	qualitative/quantitative	technology and information	The study examines how two target populations of young adults (18-21 years old) and elderly (65 years old or more) responded to seeing inheritance artifacts in three different modalities: augmented reality on a tablet, 3D models on a laptop, and then physical.	Demographic questionnaire and relationship with new technologies and museums. Evaluation of time spent on the different types of objects and analysis of emotion towards the object	n=1 museum	n = 40-20 were elderly people aged 65 or over (71% = 4.612) and 20 were young people aged between 18 and 21 years (19.44 = 0.955)	local	The results revealed that regardless of age, the digital modalities were pleasant and stimulated emotional responses. Seeing the physical artifacts after the digital ones didn't diminish your pleasure or emotions felt, in creating a pleasant and emotional experience. Viewing objects or complementing the museum visit using your own mobile device can be a chance for older people without the possibility of traveling and becoming more comfortable with computers.	Spain	
13	Theorizing How Art Gallery Interactions Impact People With Dementia and Their Caregivers	Paul M. Currie, Erin L. Baker and Victoria Tischler (P. M. Currie, Baker, & Tischler, 2016)	Specific people with dementia	Communication education in museums	Examine how contemporary and traditional art gallery programs impact people with dementia and caregivers	qualitative/quantitative	arts & OT	Pre- and post-intervention questionnaires with recording sessions	Questionnaires and interviews for thematic analysis: Life Questionnaire (DEMQR)-41 (Smith et al., 2005), a 44-item Likert Scale with 29 points. Caregivers completed the interview Zarit Burden (ZBI) (Zarit, Reever, & Bach-Peterson, 1980) and Bristol Activities of Daily Living (BADL) scale (Baker, Ashworth, Wilcock, & Siegfried, 1996)	8 weeks of intervention	n=2 arte traditional vs arte contemporanea	n=24 (12 with dementia and 12 without)	local	the art gallery is seen as a physically valued place that provides intellectual stimulation and offers opportunities for social inclusion that can change the way dementia is perceived.	Spain
14	Subjective Experiences of an Art museum Engagement Activity for Persons with Early Alzheimer's disease and their Family Caregivers	Jason D. Flatt, Amy Lipiak, Mary Ann Oakley, Jessica Goggin, Tress Varner, Jennifer H. Langler USA (Flatt et al., 2015)	Specific people with Alzheimer	Communication education in museums	Describe the subjective experiences of elderly people with early-stage Alzheimer's disease or related cognitive disorders (ARDD) and their family caregivers who participated in an activity in an art museum.	qualitative	interdisciplinary	Four focus groups with 10 people with ARDD and 10 caregivers after three hours of activity, completed a brief satisfaction survey, and a pre- and post-intervention survey.	Interviews in 4 focus groups of 30 minutes and Likert scale to assess feeling of belonging	n=1	n = 20 participants 10 with Alzheimer's and 10 companions	local	Three themes were identified: cognitive stimulation, social connections and a sense of self. Issues were identified as concerns specific to the program's activity and logistics, which could help improve future offers, and perceived social cohesion was correlated with the overall satisfaction of participants with the program. Improving the quality of life of people with dementia and caregivers should consider the potential role of art museums.	BRVS	
15	Qualities of the Participant Experience in an Object-Based museum Outreach Program to Retirement Communities	Smiraglia, C. USA (Smiraglia, 2015)	Specific people retired	Communication education in museums	Assess the reach of qualities of the experience of the participant in a museum extension program using artifacts	qualitative	museumology	observe program implementation in 12 communities with retirees in the Boston area using participants and staff	Interviews, conversation recording qualitative data analysis software program TAM: Analyzer, version 4.0 (Weinstein, 2012)	n=1	n = 114 participants average age of 83, from 12 retired communities	regional	The program is characterized by sensory, cognitive and emotional responses, memory sharing and socialization. These findings the cognitive and emotional benefits of reminiscence in multi-session programs, the single visit object can also elicit positive psychosocial results.	year of interest	
16	Targeted museum Programs for Older Adults: A Research and Program Review	Smiraglia, C. USA (Smiraglia, 2016)	General audience	Communication education in museums	Review of models and descriptions of programs for the elderly in museums and their evaluations	quantitative	museumology	literature review at Academic Search Premier, ERIC, Web of Science, ProQuest, JSTOR, Education Abstracts, and LexisNexis. Internet with information since 1980, and contacts with museums.	Analysis of sources where they were published: types, publications, research or evaluation methods and observed results	n=142 programas 43% do UK e 13% do USA	not applicable	transnational	5 types of programs: reminiscence sessions, object-oriented sessions, art, storytelling and lectures. Results found socialization and increased disposition.	year of interest	
17	Art therapy in art museums: Promoting social connectedness and psychological well-being of older adults	Rose Bennington, Amy Backos, Jennifer Harrison, Arnell Eberington Reader, Richard Carolan USA (Bennington, Backos, Harrison, Eberington Reader, & Carolan, 2016)	General audience	Communication education in museums	Identify therapeutic benefits using programs in art museums with the elderly	qualitative	psychology	Analysis of artistic work, tests, session notes and research by observation with a focus on the analysis of Benin and Armstrong (2013) "Functions of art as therapy: Remember - Hope - Sadness - Recognition - Self-knowledge - Growth - Appreciation"	Control, Autonomy, Self-Realization and Pleasure (CASP-19) quality-of-life measure (Byff & Keyes, 1995) validado para idosos - Hude, Wiggins, Higgs, & Blane, 2003), Lubben Social Network Scale 18 (LSNS-18), measuring perceived social support and isolation, widely used with older adults in a variety of settings (Lubben & Groneir, 2003, 2004), and the Social Proxies Scale (SPS) assessing social relationships, validated with older adults (Callstrom & Russell, 1987)	Art therapy sessions	n=1 museum	n = 8 elderly 2 (70 to 80 years old) 6 (80+)	local	The study found benefits connection with others through shared experience, validation, increased self-efficacy, improved psychological well-being, cognitive stimulation and opportunities to express emotions and opinions.	year of interest
18	Regimes de gratuidade em museus nacionais impactos nos públicos seniores	Teresa Honnem de Melo de Moura Pereira Portugal (Pereira, 2016)	General audience	Communication education in museums	The impact of exemption / discount measures on the audience concerned, the motivations (or not) associated and their positioning	qualitative	management	two methods: ticket office questionnaire, document analysis, interview and direct observation	semi-direct interviews	1 museum	n=14 museums	not informed	regional	They explain the behavior of passive and disinterested employees in welcoming suggesting training. Regarding the discount for seniors, the knowledge is general and its legitimacy associated with the condition of retiree	BR-CAP
19	Well-Being With Objects: Evaluating an museum Object-Handling Intervention for Older Adults in Health Care Settings	Linda Thomson, Helen Chatterjee UK (L. J. M. Thomson & Chatterjee, 2016)	Specific people in hospital	Communication education in museums	Measure therapeutic benefits with clinical scales and museum object handling interventions	quantitative	gerontology	Procedures of 30 to 40 minutes of session and application of instruments pre and post intervention in different institutions	Calendar of negative and positive effect. Visual analog scale (PANAS and VAS)	30-40 min session with pre and post intervention measurements	n=3 institutions	n=40 people 65-83 years	regional	Few differences in pre- and post-session assessments, but self-report of increased cognitive ability and social inclusion and mood. Audio recordings report increased vitality, sense of identity and social skills as new thoughts, increase of positive emotions well being and joy of decrease of negative emotions	BRVS
20	Viewing and making art together: a multi-session art-gallery-based intervention for people with dementia and their carers	Virginia da Assunção Moraes Gomes Portugal (Gomes, 2016)	Specific people with cognitive impairment	Communication education in museums	Explore stories about the art collection as a communication facilitator for the PNC person	qualitative	education	application of 2 distinct types of narrative for analysis of verbal / non-verbal communication behaviors / adults	video recording and direct observation	Simplified written storytelling compared to SPC - Pictographic Symbol for Communication	1 museum	n=4	local	The narratives in SPC are more facilitators of dialogue and link to the life story and therefore more inclusive for autonomous visit.	BR-CAP/SPD
21	Públicos idosos e museus no Brasil: formas de atuação e perspectivas - estado exploratório	Luana Gonçalves Vieira da Silva Brasil (G. V. d. Silva, 2016)	General audience	Communication education in museums	Study initiatives that have been or have been developed in Brazilian museums and / or by Brazilian museums for elderly audiences.	qualitative/quantitative	management	Practical approaches to the elderly on an academic production basis, museum web and spring museum publications	Publications	not informed	not informed	national	After the survey of museological actions (in great diversity) in comparison to the number of museums, there is much to be done for the elderly public (in its diversity as an audience)	BRCT	
22	Los museos como factor de integración social del ante na comunidad: La experiencia del voluntariado cultural de mayores	González, Guerrero Española (González & Guerrero, 2016)	Specific people	Communication	Understand the role of SO citizens in cultural volunteering museums	qualitative	technology	Literature review analyzing the propositions of volunteer training and occupation	social work and generativity	not informed	not informed	national	New social roles are verified for elderly cultural volunteers within the network of active aging, and intergenerational reality	year of interest	
23	Os idosos como público de museus	Olga Susana Costa Costa e Araújo Brasil (Araújo, 2016)	General audience	Communication heritage and digital	Characterize typologies of the elderly, possible museographic approaches, challenges and opportunities for museological relationships	qualitative	museumology	Review of case studies of museographic propositions through the internet, choice of 2 museums to determine museographic relationships with the elderly	Multimethod: Ethnographic observation of the elderly and interviews with managers and educational sectors and reviews of programs for online information	n=2 museums	not informed	local e transnational	Pointed challenges and museographic opportunities within the methodology for successful aging socialization and lifelong learning.	BRCT	
24	Relação do público Senior com o museu de Orlas de Barcelona	Rosa Cristina Portela de Sá Portugal (Sá, 2016)	Specific target senior	Communication Management	Know strategies for creating museum visiting habits	qualitative	management	qualitative research-action visitation analysis	Participant observation and interviews with elderly audiences and interviews with educational sector guides	n=1 museum	n = 40 p1 - 9 (75 to 80 years old) 2; 15 and 16 (65 to 91 years old)	local	Space for cohesion and social inclusion, activities must be systematic. Providing education of individuals throughout life that cultural institutions must respond to. Take into account the profile of those who receive the elderly	BR-CAP	

25	Coffee, Cake & Culture Evaluation of an art for health programme for older people in the community.	Brenda Roe, Sheila McCormick, Terri Lucas, Wendy Gallagher, Andrea Win, Sophie Elkin UK (Roe et al., 2014)	Specific people with dementia memory commitment	Communication: education in museum	qualitative	arts and health	Monthly sessions for 6 months - field notes and a group session were held in museums	Spratley (1980) nine dimensions of observation and group interview (commitment; space, objects, actions, activity, events, time, characters, goals and feelings)	sessions and assessment during and on return to the institution	n=1 museum	n=17 residents (n=17 caregiver staff (n=11) Museum and gallery workers (n=4) participated in the final	local	Executable program, allows to develop creatively, cultural appreciation and socialization as well as promoting well-being, quality of life and social inclusion. During and after the activity on the return to the institution	EURASC
26	Art in the Moment: Evaluating a Therapeutic Wellness Program for People with Dementia and their Care Partners	Lacen Livingston, Geri Fritzen Perin, Deborah Del Signore USA (Livingston, Fritzen Perin, & Del Signore, 2016)	Specific people with dementia	Communication: education in museum	qualitative	education	Art looking / art making 2 momentos do Art in the Moment	Face scale disposition assessment - Smiley-Face Assessment Scale after Rosenberg, Met Mt, 89 evaluation of interaction by responses to 4 points, telephone interview open responses.	60 min discussion and 60-90 minutes of art creation	n=1 museum e 1 institucao	n = 312 participants	local	Reduced isolation of the growing group. High sensitivity, measurable increase demonstrated in significant socialization and personal validation. Positive changes in Communication and caregiver / caregiver interaction. Greater participation of caregivers and caregivers in non-clinical social activities. Program helps to promote mental well-being and healthy aging.	Scopus
27	Museum activities in dementia care: Using visual analog scales to measure subjective wellbeing	Joana Johnson, Alison Culverwell, Saku Hubbert, Mich Robertson, Paul Canic UK (Johnson, Culverwell, Hubbert, Robertson, & Canic, 2017)	Specific people with dementia	Communication: education in museum	quantitative	psychology	Participation in object handling and art contemplation sessions, application of pre and post session visual scales - in this order and in reverse order.	VAS (Elo/Go Group 1990)	45 min session-> 25 min interval-> 45 min session (one mediator and 2 volunteers) for 6 people (1 people with dementia and 3 caregivers)	n=1 museum	n = 66 (n age 75 years) and accompanying (n age 66 years)	regional	For the first time, statistically significant quantitative results demonstrate an increase in subjective well-being both in object handling sessions and art contemplation, in the comparison of the pre-session test, regardless of the order of the sessions, the social interaction does not interfere with the results.	BVS
28	Os museus e o público senior: proposta de procedimentos para uma visita a um museu de arte para um público sénior de baixo nível de escolaridade	Ara Lucia Guarita Portugal (Guarita, 2017)	Specific people with low education	Communication: education in museum	qualitative	arts	Identify alternatives that enable cultural mediation in an art museum for elderly people with low education (investigator's diary)	bibliographic search of references, Observation of elderly people with low educational level who will visit a museum noting the difficulties of speech and physical space (investigator's diary)	Low-level educational seniors visit museums	n=4 museum	n = 50 seniors Day center and social center	local	The public is subject to stereotypes and underestimated, heterogeneity can be a benefit for educational services to encourage independent observations and support comments.	RECAPAT
29	Carolyn Todd, Paul M. Camie, Bridget Lockyer, Linda JM Thomson, Helen J Chatterjee UK (Todd, Camie, Lockyer, Thomson, & Chatterjee, 2017)	General audience	Communication: education in museum	quantitative	psychology	To find out how museums-based social prescription programs reduced isolation, determine which the elements and processes involved and how they interacted to create a social and physical environment allowing psychological well-being	Participation in different sessions and museums, application of instruments	R.UCLA Loneliness Scale (Russell et al., 1980), Warwick Edinburgh Mental Wellbeing Scale (Stewart-Brown and Janamohan, 2008) and UCL museums Wellbeing Measure Older Adult (Thomson and Chatterjee, 2015, 2018) 3x interview recording, during program, and written record	conducting museographic activity with educational	n=7 museums	n = 20 elderly (out of n = 115 from a wider study)	regional	The museums programs created opportunities for social inclusion and well-being in socially isolated elderly people through interaction in a social context promoting Communication, self assessment and others, social engagement and sharing of experiences.	BVS
30	Effects of a museum-based social prescription intervention on quantitative measures of psychological wellbeing in older adults	Linda Thomson, Lockyer B, Camie P.M., Helen Chatterjee UK (L. J. Thomson, Lockyer, Camie, & Chatterjee, 2018)	General audience	Communication: education in museum	quantitative	psychology	Measurement of social prescription interventions in museums over time analyzed 6 emotions	Analysis of Participation in 10-week sessions inclusion criteria: isolated elderly, informed consent, without employment and without socio-cultural activities. Exclusion criteria: without the ability to go to the museum, and without the ability to complete questionnaires	Evaluation administered pre and post session - in the middle and at the end of the program	n=7 Londres e Kent	n=115 people (65-94 years)	regional	Improvement in psychological well-being over time. The study participants experienced the privilege of having contact with museum workers, teaching objects behind the glass, creative activities, new skills and meeting people in a different context.	BVS
31	Ações educativas do museu ao Ar Livre - Princesa Isabel: Visibilidade e valorização da memória do Iódo no Município Orleans - SC	Rosiane Damazo Cachoeira Brazil (Cachoeira, 2018)	General audience	Communication: education in museum	qualitative	Language/Science	Knowing the visibility and enhancement of the memory of the Elderly Educational actors of the open-air museum Princesa Isabel	Documentary bibliographic research and thematic interviews Domestic Life, Religion and Work / Oral History	semi-structured interviews	n=1 museum	n=3 people (68-83 years)	local	It was found that the museum develops actions aimed at the elderly public and that these enable the visibility and enhancement of their memories. The research contributed to the strengthening of the museum as a space for enhancing memory and providing access to different local cultures.	EBELT
32	Art museum-based intervention to promote emotional well-being and improve quality of life in people with dementia: The ARTEMIS project	Arthur Schall, Valentina Tesky, Ann-Karin Adams, Johannes Paniel Germany (Schall, Tesky, Adams, & Paniel, 2018)	Specific people with dementia	Communication: education in museum	qualitative	psychology	Evaluate the ARTEMIS program in terms of emotional state, well-being and quality of life for people with dementia and caregivers	Participation in sessions, application of pre and post session instrument	conducting museographic activity with educational and control group with independent visitation and then the application of the session	n=1 museum	n = 44 (n age 75 years) and accompanying (n age 62 years)	regional	The program developed mental stimulation and promoted social engagement with family and caregivers. Reduction of apathy and depressive symptoms. In comparison with the control group of independent visits to museums, the results were similar. Art as a non-pharmacological approach with therapeutic potential plus studies for confirmation.	BVS
33	O museum como contexto de educação comunitária: um projeto de promoção do envelhecimento bem-sucedido	Maria Conceição Antunes, Carla Susana Jesus Portugal (Antunes & Jesus, 2018)	General audience	Communication: education in museum	qualitative	education	Evaluating the museum as a community education context active aging and social inclusion	evaluation of intervention in four workshops: a) Physical Activities; b) Development of Interpersonal (i) (ii) Training and d) Artistic Expression	4 workshops with participatory and active methodologies	n=1	n=37 (IM 71, 43 years)	local	This project reiterated the importance of socio-cultural animation as an intervention promoter of learning, well-being and quality of life with the elderly population.	BVS
34	Art museums as a source of well-being for people with dementia: an experience in the Prado museum	Manuel H. Belver, Ana M. Iltan, Neomi Avila, Carmen Moreno, Clara Hernandez Espinosa (Belver, Iltan, Avila, Moreno, & Hernandez, 2018)	Specific people with dementia	Communication: education in museum	qualitative	psychology	Describe the design, development and evaluation of a program of artistic education activities for people with dementia on visits to the museum	2-month program with artistic activities consisting of visits to the Prado	participant observation, the final assessment was videotaped for further analysis	n=1 museum	n=12 people (66+)	local	Reactions of interest, involvement and satisfaction; there was a positive effect on mood and social relationships. Cognitive difficulties did not prevent participation in the program. It was concluded that the museum can be an important resource for promoting the well-being of people with dementia and social inclusion.	web of science
35	The Art of Analgesia: A Pilot Study of Art Museum Tours to Decrease Pain and Social Disconnection	Ian J Koschier, Scott M Fulman, Debora Paterniti, Doris Sommer, Claudia Li Wu, Deborah Ward, FAN, Jiji G Joseph USA (Koschier et al., 2018)	Specific people with chronic pain	Communication: education in museum	qualitative	interdisciplinary	Examines the viability of art visits to museums (Art RX) as an intervention for individuals with chronic pain	intervention of a one hour visitation program (in an art museum, using analysis instruments) before and after, and 3 weeks after	Pain intensity scale 0-10; scale of social disconnection 12 items; Cohen's thematic analysis through semi-structured interviews	n=1 museum	n=54 (m. 59 years)	local	Visits to the art museum for people with chronic pain are feasible, and participants reported positive effects of social disconnection and perception of pain.	BVS
36	Cultural engagement predicts changes in cognitive function in older adults over a 10 year period: findings from the English Longitudinal Study of Ageing	Daisy Fancourt, Andrew Skiptoe UK (Fancourt, Skiptoe, & Cadar, 2018)	General audience	Communication: education in museum	quantitative	interdisciplinary	Assess participants' cultural engagement and effect on cognitive decline	FLSA participants (50+) evaluated in two waves 2004-5 and 2010-15 statistical analysis by Spearman correlation	three self-report scales assess frequency (5-point scale with which participants currently reported going to (i) an art gallery, museum or exhibition, and other cultural activities. Cognitive measures - memory and semantic fluency. Immediate and late verbal memory assessed using a word learning task	not informed	n=3445 (n 62,9 years)	national	Galleries and museums are associated with less decline in cognitive function compared to non-participation. For memory, care was associated with less cognitive decline, with a dose-response relationship, indicating that a more frequent frequency had a greater effect on cognition. For semantic fluency, appearing once a year or more seems to be protective	Scopus
37	A Experiência Museal dos Idosos no museu da Vila: acessibilidade, interação e diálogo.	Denise Oliveira Brazil (Oliveira 2019)	General audience	Communication: education in museum	qualitative	scientific, development	Analyze the experience of visiting two exhibitions with different ones at the Museum of Life / COC / Escrav	Quiz self-applied semi-structured, seeking to investigate the personal context of the participants and their perceptions of various aspects of exhibitions and video recordings to assess social interactions and exhibition elements	video recordings for online qualitative quantitative analysis DeJouanol, and semi-structured questionnaire	n=1 museum	n= 81 people	local	Emotion is a point self-reported by the elderly and the difficulty of portraying their memory may be more negative, as they are grateful for the opportunity to visit the museum and for the welcome received.	EBELT
38	Museum-based art interventions for people with dementia and their caregivers: A systematic review	P. P. Cunha M. Stout I. Leebster J. Rahle H. Whitten J. Nevill USA (Cunha et al., 2019)	Specific people with dementia	Communication: education in museum	qualitative	interdisciplinary	Develop a systematic review of museum results with programs for people with dementia and their caregivers	Research on Scopus, PubMed, PsycInfo, and Embase. And gray literature: Articles in English and Spanish (every year)	sample size, design, population, description of intervention, description of results	not informed	not informed	transnational	Despite the popularity and benefits suggested by Museum programs suggest future studies with appropriate control to determine the impact on patients-centered dementia outcomes.	EURASC
39	Evolution of the "Unforgettable" art programme by people with dementia and their care-givers	Iris Hendriks, Franka J. M. Meiland, Debby I. Gerritsen, Rosalie Marie Doos, Holanda (Hendriks, Meiland, Gerritsen, & Doos, 2019)	Specific people with dementia	Communication: education in museum	qualitative	interdisciplinary	Collect data to contribute to the optimization of the program for the target group	Investigate the characteristics of the participants, the experience and appreciation of the program; investigation of mood change pre and post museum visitation in 90 minutes.	open questionnaire on education, art experience, dementia severity and age, type of caregiver, positive experience with care; SFAS score (mood) appreciation, experience and change of humor	Analysis before and after activity	n = 95 people with dementia; n = 104 caregivers	local	People with dementia and informal and formal caregivers positively evaluate the program; formal education and environmental factors related to recovery, experience and mood swings. Follow more randomized surveys	BVS

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