

Research digest

**Research digest:
older people's
physical health**



**CENTRE FOR
CULTURAL VALUE**

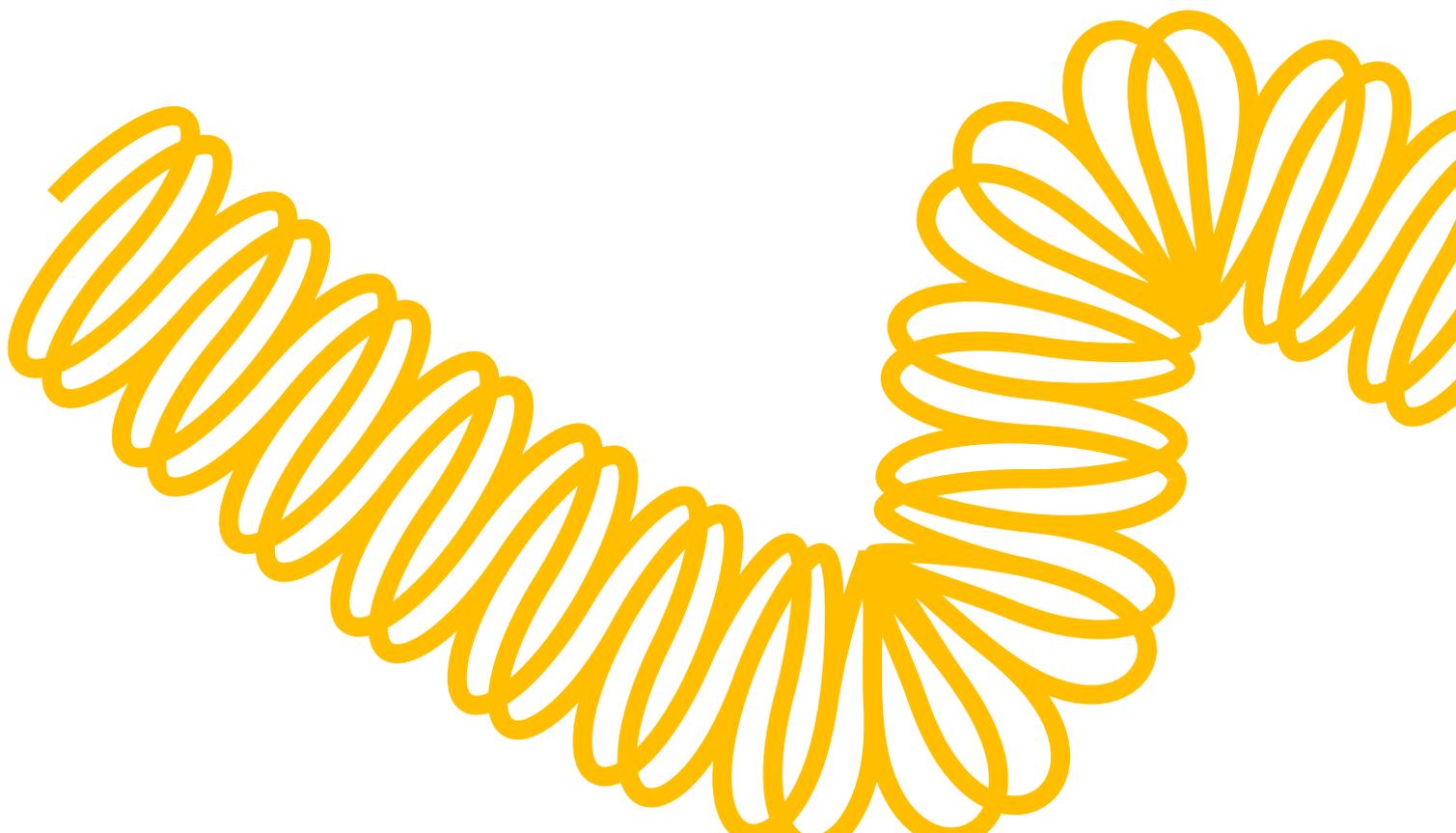
About the Centre for Cultural Value

The Centre for Cultural Value is building a shared understanding of the differences that arts, culture, heritage and screen make to people's lives and to society. We want cultural policy and practice to be shaped by rigorous research and evaluation of what works and what needs to change. To achieve this, we are working in collaboration with partners across the UK to:

- Make existing research more relevant and accessible so its insights can be understood and applied more widely.
- Support the cultural sector and funders to be rigorous in their approaches to evaluation and to foster a culture of reflection and learning.
- Foster an evidence-based approach to cultural policy development.

Our approach is primarily pragmatic: we want empirical research to drive decisions about cultural funding, policy, management, engagement and evaluation.

Based at the University of Leeds, the Centre's core partners are The Audience Agency and the Universities of Liverpool, Sheffield and Queen Margaret University, Edinburgh. The Centre is funded by the Arts and Humanities Research Council (part of UK Research and Innovation), Paul Hamlyn Foundation and Arts Council England.



About our research digests

Our research digests are based on a rapid assessment of published literature to present a 'snapshot' of cultural value research across a number of core themes.

Our research reviews are shaped in consultation with practitioners, researchers and policymakers to make sure they are as useful and relevant as possible. We invite people to take part through surveys, interactive workshops and policy round tables. This helps us to develop research review questions that we can find answers to in the literature.

The reviews present an overview of key findings, what we know for certain, where there is emerging evidence and where further research is needed. We use the evidence gained through the review process to make conclusions about the current state of the evidence, and what implications this has going forwards.

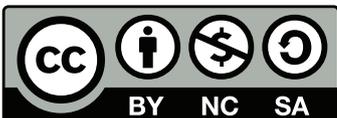
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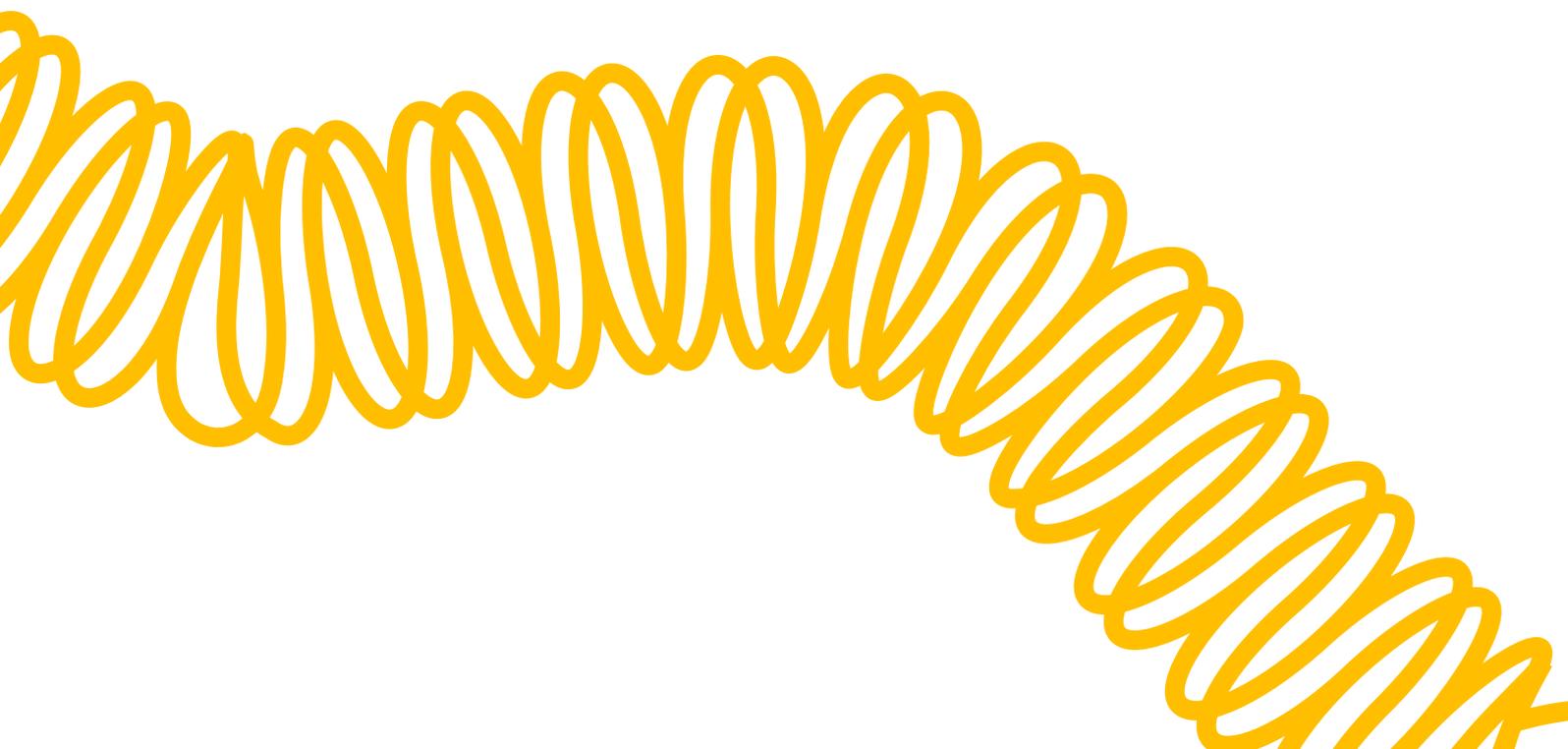
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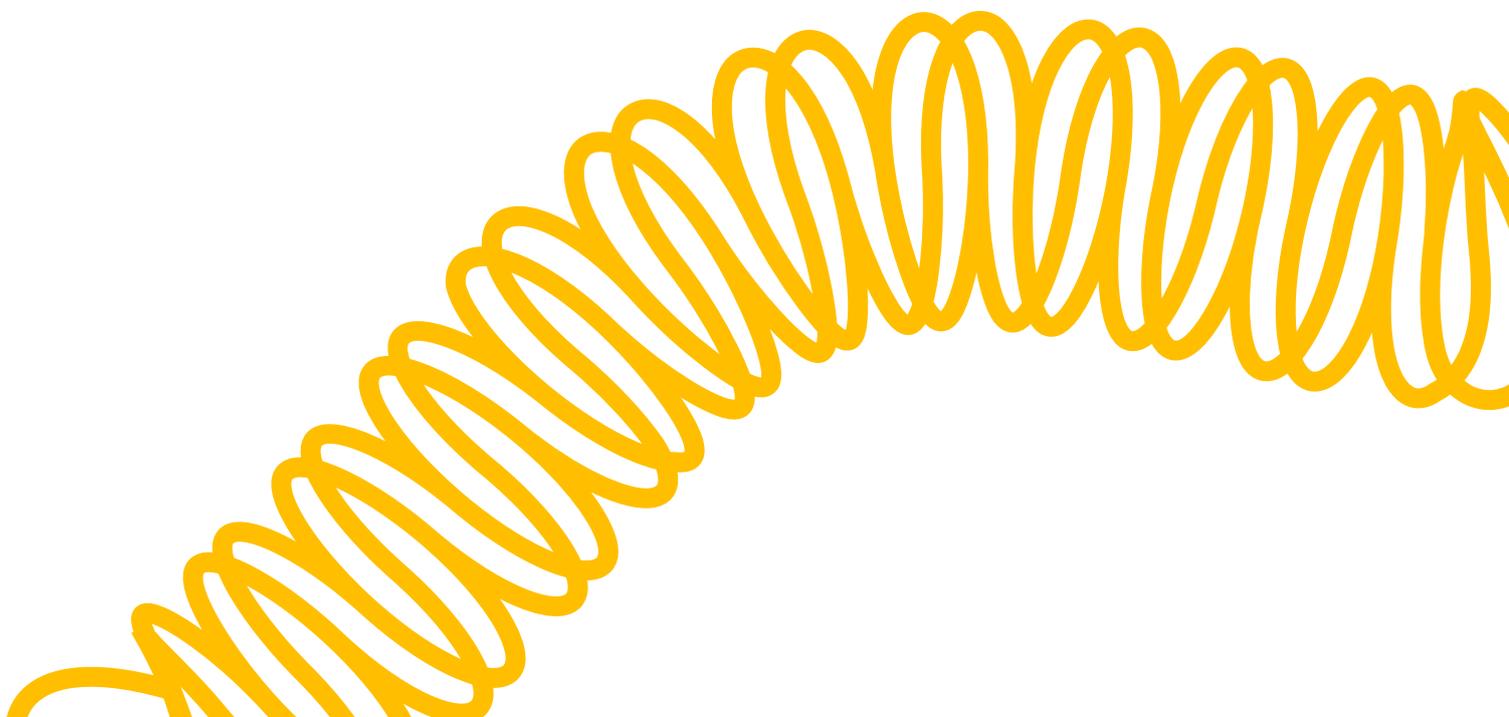


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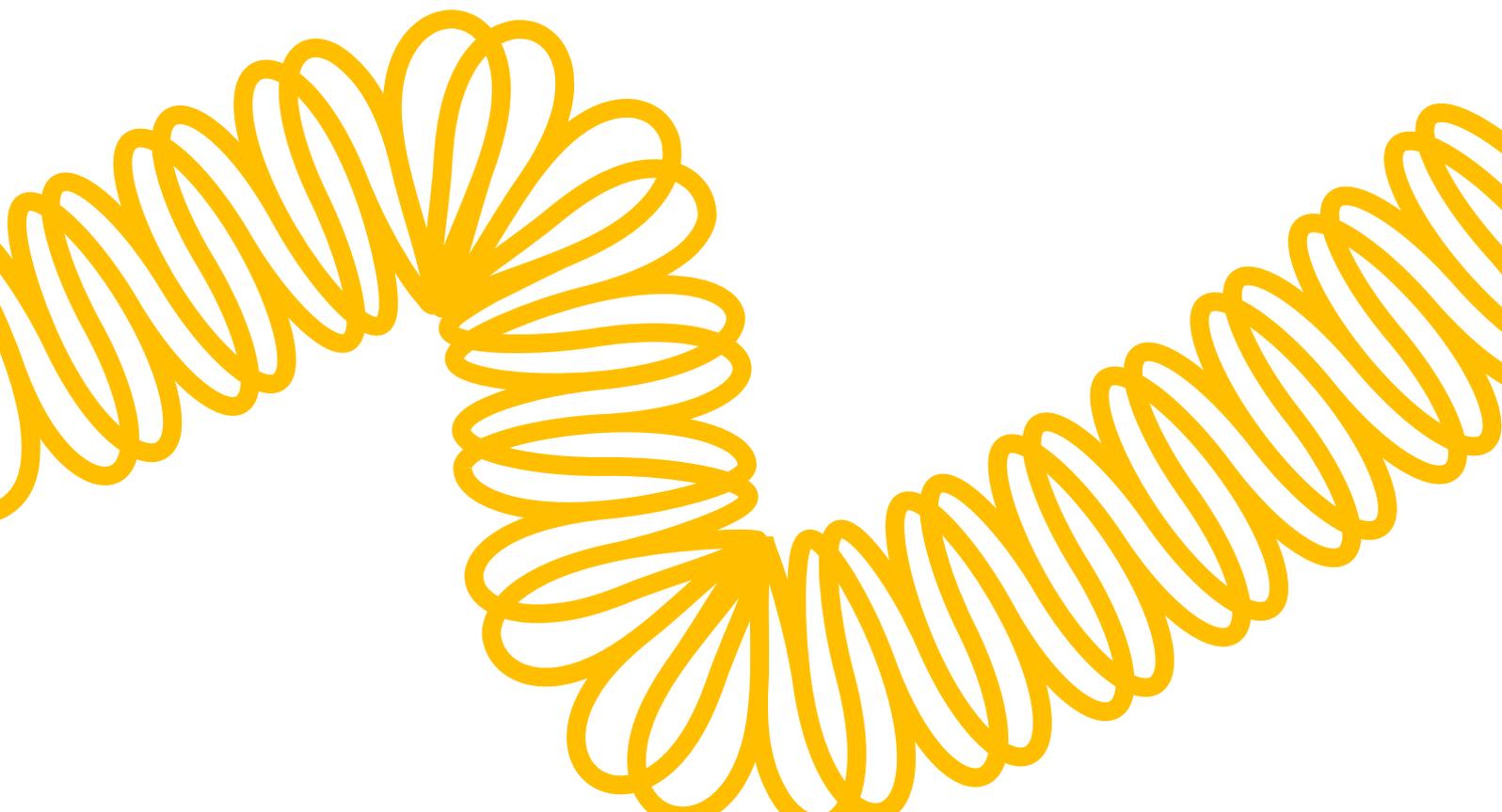
Highlights

In recent years there has been a growing interest in the value of cultural programmes in supporting older people's physical health as they age. This interest has been noted within the cultural sector, as well as the voluntary, community and social enterprise sectors (e.g. AgeUK, Aesop). We are all growing older, and so it is important to consider how cultural activity may support physical health and contribute to older people leading meaningful and fulfilling lives as they age. This research digest presents an overview of findings from a rapid review of the literature relating to the value of culture for older people's physical health.

We identified 23 studies that examined the role of cultural programmes in supporting older people's physical health (inc. physical fitness, physical function, fall incidences). Across these studies dance programmes were the most commonly reported (83 per cent), with the older people represented in the literature being largely women and aged 65-75. The large majority of studies used quantitative approaches (96 per cent), implementing a 'battery' of physical assessments to gain an overall picture of the impacts dance had on different elements of physical function.

A number of studies showed positive impacts of programmes on older people's overall physical function, balance and posture. However, these findings were not consistent across studies and a number of studies showed no difference over time or in comparison to a control group. This means that at present, there is mixed evidence on the value of cultural activity in supporting the physical health of older people.

Overall, while there was some positive indication for the role that dance may play in supporting the physical health of older people, caution must be taken when interpreting the evidence in this area given the range of significant and non-significant findings represented in the literature. Further research is needed to unpick the specific role of dance and other cultural activities represented in this review to fully understand the value of such cultural activity in promoting the physical health of older people.



Background

In recent years, there has been growing interest in the role that culture can play in promoting physical health outcomes for older people. Many programmes focus on physical activity as a way to promote active ageing and support older people to live more independently. This interest has been noted within the cultural sector, as well as in the voluntary sector and among community organisations and social enterprises (e.g. Age UK; Aesop). We are all growing older and so it is important to consider the ways in which cultural engagement can support us all to lead more active and independent lives as we age.

In order to evaluate the evidence around the value of arts and culture in promoting physical health outcomes, we synthesised and appraised peer-reviewed literature published since 2011. This rapid review of the literature was conducted between January and May 2021. This review is part of the Centre for Cultural Value's synthesis of research within the wider theme of culture, health and wellbeing.

Methods

We conducted a rapid review of peer-reviewed academic literature that has been published since 2011 to present a snapshot of the recent evidence. We used a systematic approach to identify literature, using academic databases as well as the Repository for Arts and Health Resources and the Center for Arts in Medicine (University of Florida) Research Database. We also engaged with experts working in the field to ask them to make suggestions for literature that had not been identified within our database searches.

What we included

We included peer-reviewed, primary research that was published in English between January 2011 and January 2021. We looked for research where the focus was on older people (aged 60+) who were living at home within the community, with outcomes relating to physical health (including balance and falls, cardiovascular health, physical fitness etc.).

What we didn't include

We didn't include studies that focussed on dementia or Parkinson's disease, or studies with a focus on cognitive outcomes as there is a significant body of research within these areas to date. We also didn't include older people living in care home settings. Furthermore, we didn't include studies which focussed on creative arts therapies. While we recognise the vital work of creative arts therapists, the focus of this review was on impacts or outcomes relating to work produced or supported by the arts and cultural sector itself.

What questions did we ask?

1. Which types of arts and cultural experiences are represented in the literature?
2. How is the value of culture researched or evaluated in this area?
3. What evidence is there to support or challenge the role of arts and culture in supporting the physical health of older people?



Findings

We identified 23 studies which investigated outcomes relating to older people's cultural participation and relationship to physical health (see the Table of Studies on page 12 for more information). Of these studies, five were conducted in England, three in Germany and Brazil, two in Italy, and one each from Canada, Faroe Islands, France, Greece, Ireland, Poland, Portugal, Scotland, Switzerland and Thailand.

The total number of participants represented across studies was 12,474 older people. There were high percentages of female participants compared to male, and average ages tended to fall within the 65-75 age range. Many studies failed to report participant demographics beyond age and gender.

Which types of arts and cultural experiences are represented in the literature?

Nineteen of the 23 studies (83 per cent) explored the value of dance programmes in relation to older people's physical health (see Figure 1). This included programmes focusing on ballroom dance, Scottish country dancing, Greek traditional dance, contemporary dance and salsa dancing. All programmes were group-based and took place outside of the older people's homes.

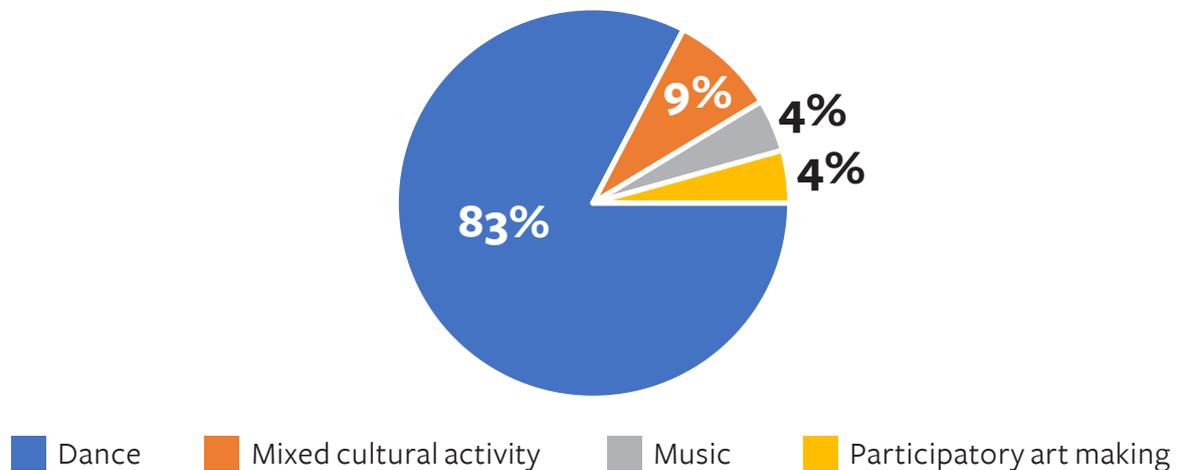


Figure 1: Types of cultural activity represented in the literature

The four remaining studies examined the role of participatory art making (one study), receptive arts activities (inc. going to the theatre, concerts etc.) (two studies), and music and movement (eurhythmics) (one study). All programmes were group-based and took place outside of older people's homes.

How is the value of culture researched or evaluated in this area?

Twenty-two of 23 studies used quantitative approaches to understanding the value of cultural programmes for older people's physical health. These studies used a combination of questionnaires, measures of physical function (see below) and body measurements. In general, studies used a pre/post intervention or Randomized Controlled Trial approach, where measures of physical health were taken before and after a dance programme and compared. In the randomized controlled trials a range of control groups were used to compare findings, including walking groups, 'treatment as usual' groups, and social support groups. The majority of studies did not follow up participants after the programme came to an end.

One study used a mixed-methods approach which combined physical function assessments, questionnaires and focus groups with older people. There were no studies that used a purely qualitative approach. This is a direct contrast to our research digest focusing on older people's wellbeing and sense of community connection which used predominantly qualitative approaches.

The questionnaires used were standardized measures of physical health (e.g. [Activities of Daily Living scales](#), [International Activity Daily Living Scale](#), [Falls Efficacy Scale International](#)) or mental health (e.g. [Geriatric Depression Scale](#), [Satisfaction with Life Scale](#)). Questionnaires tended to be administered alongside tests of physical function.

A wide range of physical function measures was used to assess different elements of physical health and fitness, for example balance, walking pattern and muscle strength. These measures of physical function were used in combination with each other in what is called a 'battery assessment' – this means that information from a number of measures is used to help gain a fuller picture of an individual's physical function than can be learned through a single assessment. The majority of studies combined these measures of physical function to gain an overall picture of the fall risk or physical health of older people. For a full list of physical function tasks, and what element of physical function they assess, see Appendix 1.

Finally, body measurements such as Body Mass Index (BMI), weight and waist circumference, blood pressure, muscle mass and resting heart rate were used to assess for levels of obesity and physical fitness. These measurements were less commonly used to assess physical health compared to questionnaires and physical function assessments.



What evidence is there to support or challenge the role of arts and culture in supporting the physical health of older people?

Studies largely sought to understand the value of cultural activity in supporting the physical function of older people, which was evaluated through a combination of physical assessments. Physical function is the ability to manage one's own physical needs (such as personal hygiene, dressing, eating etc.) and more complex skills needed to live independently (such as household cleaning, using public transport and preparing meals). Maintaining good physical function has been shown to be linked to being able to live independently within the community for longer. It is also strongly related to a person's risk of falling, i.e. the better one's physical function, the less likely to experience a fall.

The following section will outline the overarching findings relating to physical function, and then consider individual components such as balance, posture, gait and strength that were measured through the different assessments used by researchers. More information about individual studies can be found in the Table of studies.

Physical function

Eleven studies used overall physical function as a primary outcome measure. Ten of these studies were dance-based programmes, with the other study focussing on a music and movement programme. Older people's physical function was seen to improve over time in seven studies, with three of these studies showing greater improvements than control groups. However, four studies showed no differences in physical function between older people engaging with dance and those in a control group. Therefore, the evidence is currently mixed for the role that dance can play in improving the physical function of older people.

Balance

Nine studies explored balance as a primary outcome, with seven focussing on dance programmes and one on music and movement. Five studies demonstrated a significant improvement in older people's balance compared to baseline, with three showing significantly higher scores than control groups. However, four studies observed no differences in balance between dance and control groups. Therefore, the evidence remains mixed for the role that dance can play in improving the balance of older people.

Posture

Three studies examined different aspects of older people's posture control as a primary outcome measure, i.e. controlling body position to maintain balance. All three studies examined dance programmes for older people, with two of these studies showing significant improvements in postural control and stability compared to a control group. The third study, however, showed no significant differences in older people's postural control over time. Therefore, the evidence is currently mixed for the role that dance can play in improving the postural control of older people.

Fall risk

Three studies examined fall risk as a direct outcome. The two dance studies demonstrated an improvement in the Falls Efficacy Scale, as well as fewer reported falls compared to controls at follow-up. The music programme also showed fewer reported falls compared to the control group at follow up. While all studies that measured fall risk and number of falls indicated positive findings, the limited number of studies with this as a primary outcome limits the conclusions that can be made regarding this particular outcome.



Frailty

Two studies examined frailty as a primary outcome from cultural experiences. Older people who took part in a participatory arts programme in a museum context showed significant decrease in frailty scores at three months compared to baseline. At follow up, there were no significant differences between scores at three months and 15 months, but scores remained higher than at baseline.

In the other study that focussed on mixed-cultural activity (including theatre, opera, cinema) as part of a large-scale cohort study, older people were shown to have a reduced risk of becoming frail and a slower progression to frailty over time. Overall, while these two studies point to positive outcomes relating to older people's frailty there is still limited evidence that suggests that cultural experiences lead to older people being less frail.

Gait

Two studies examined gait as a primary outcome. Gait refers to a person's manner of walking and has been shown to be linked to older people's balance and risk of falls. Older people who took part in a music and movement programme were shown to have improvements in gait compared to a control group. In the second study, which explored a dance programme, there was no indication that dance improved the gait or stride of older people. Therefore, there remains limited evidence that dance or music and movement programmes lead to improvements in older people's gait.

Strength

One study explored older people's physical strength as a primary outcome measure using a range of physical strength assessments. No significant differences were observed for this outcome between older people engaging with a dance programme and a control group. Therefore, there is currently limited evidence that dance programmes improve older people's physical strength.

Aerobic fitness

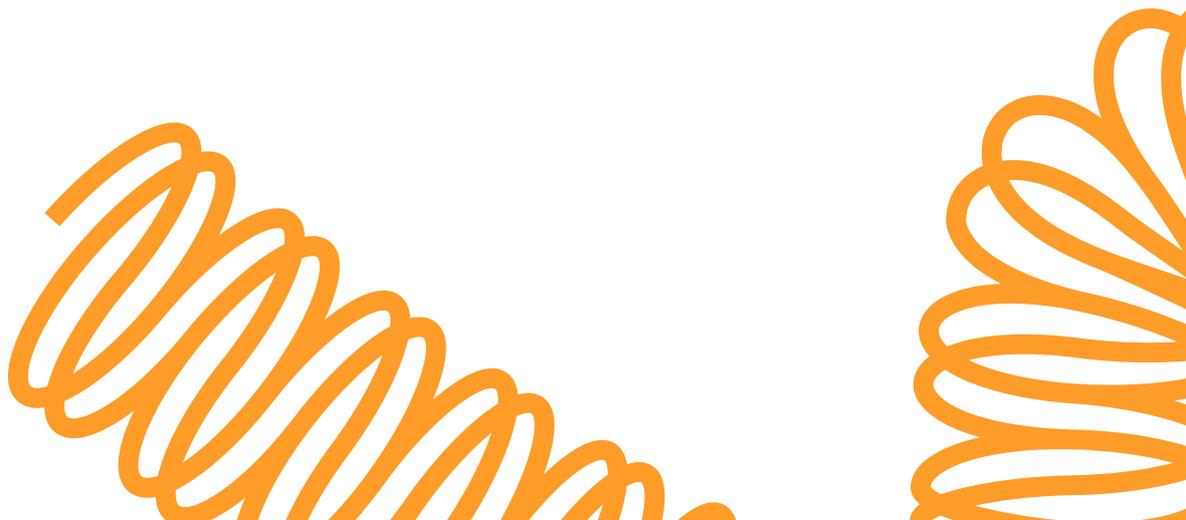
One study took measures of cardiovascular health through a range of assessments. Older people engaging with a dance programme were shown to have improved aerobic fitness over the duration of the programme but these changes were no different from the control group. Therefore, there remains limited evidence that dance programmes improve older people's aerobic fitness.

Mortality

One study explored 'receptive' cultural activities (e.g., attending the theatre, exhibitions, and museums) and their relationship to mortality and death. The findings indicated that the more regularly an older person engaged with receptive cultural activity, the less likely they were to die on follow-up compared to those who never engaged – suggesting that cultural engagement could be a protective factor. This study used data from the English Longitudinal Study of Ageing with a population of 6,710 older people and took into consideration differences in cognitive, mental, and physical health. Although this is a study with a large sample size and took additional factors into consideration, there may be other factors other than cultural experiences that may have acted as protective factors that were not examined as part of the research.

Other findings

While dance programmes were the most commonly represented within the literature, there is no evidence that a particular dance style (i.e. salsa, ballroom, contemporary) is more beneficial for older people than others.



Conclusions and implications

There is a strong interest globally in the role that cultural activity, specifically dance, can play in promoting older people's physical health. A number of studies showed positive impacts of programmes on older people's overall physical function, balance and posture. However, these findings were not consistent across studies and a number of studies showed no difference over time or in comparison to a control group. This means that at present, there is mixed evidence on the value of cultural activity in supporting the physical health of older people. With this in mind, we can draw the following conclusions:

While the majority of studies point towards the positive impacts of dance in supporting the physical function of older people, caution must be taken when interpreting findings due to the high levels of non-significant findings as well as small randomized control trial sample sizes.

Further research is needed to examine how improvements in physical function may play out in the everyday lives of older people as a result of taking part. There is a surprising lack of qualitative research within this area, in part due to the disciplinary backgrounds of many of the researchers working in this field (i.e. physical sciences and physiotherapy). This means that there is very little information about the experiences of older people as they take part in these programmes, as well as a difficulty in discerning the different benefits of cultural activity compared to control groups.

Older people who are female and aged 65-75 are the most commonly represented group within the literature. There is far less research relating to men and the oldest-old (i.e. 85+). Further research should therefore seek to recruit a wider range of participants, especially those who are more likely to face social and health inequalities, in order to gain a more holistic picture of the value such programmes may play in improving physical health.

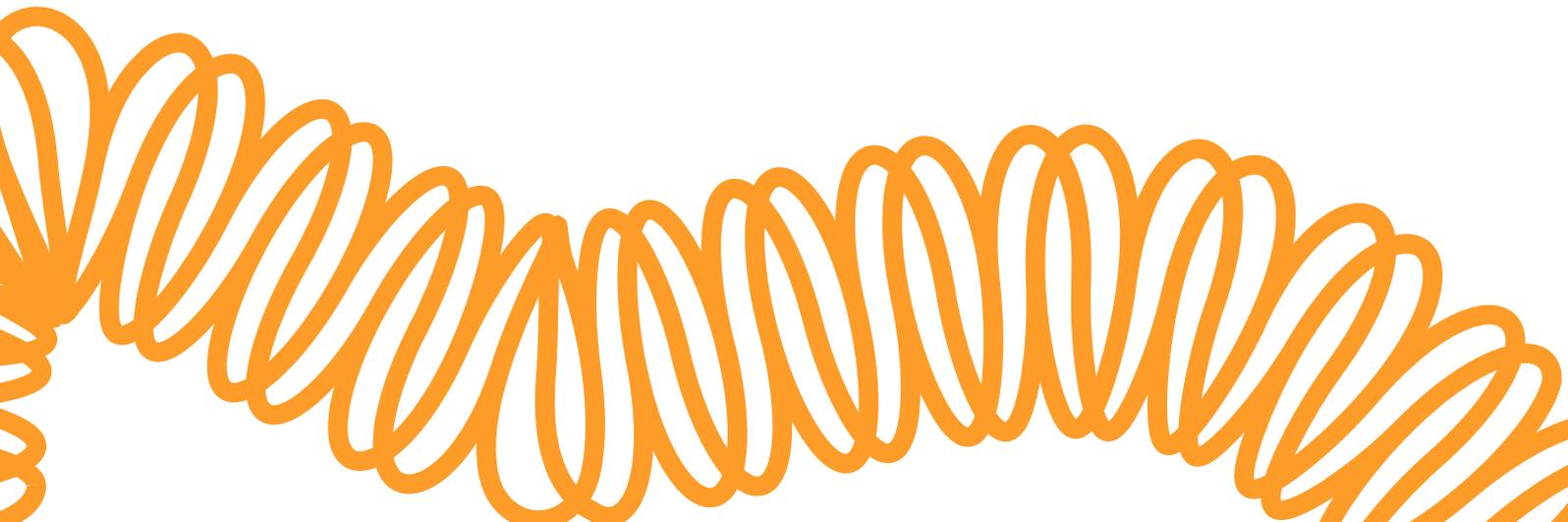
There was a lack of long-term follow up after programmes came to an end and so at the moment there is limited evidence to suggest there are longer term benefits to engaging with cultural activities on older people's physical health.

Next steps

Our research and evidence base for cultural value needs to respond to what works now and what needs to change in the future, so that we can support practitioners and policymakers to develop models and practices that are more robust, equitable and sustainable.

We will review this publication in Spring 2023 to reflect relevant research and evaluation that was published after the first edition of this digest.

If you are aware of new publications or feel we have missed a vital piece of research or evaluation that should be included in our 2023 update, please get in touch at: ccv@leeds.ac.uk



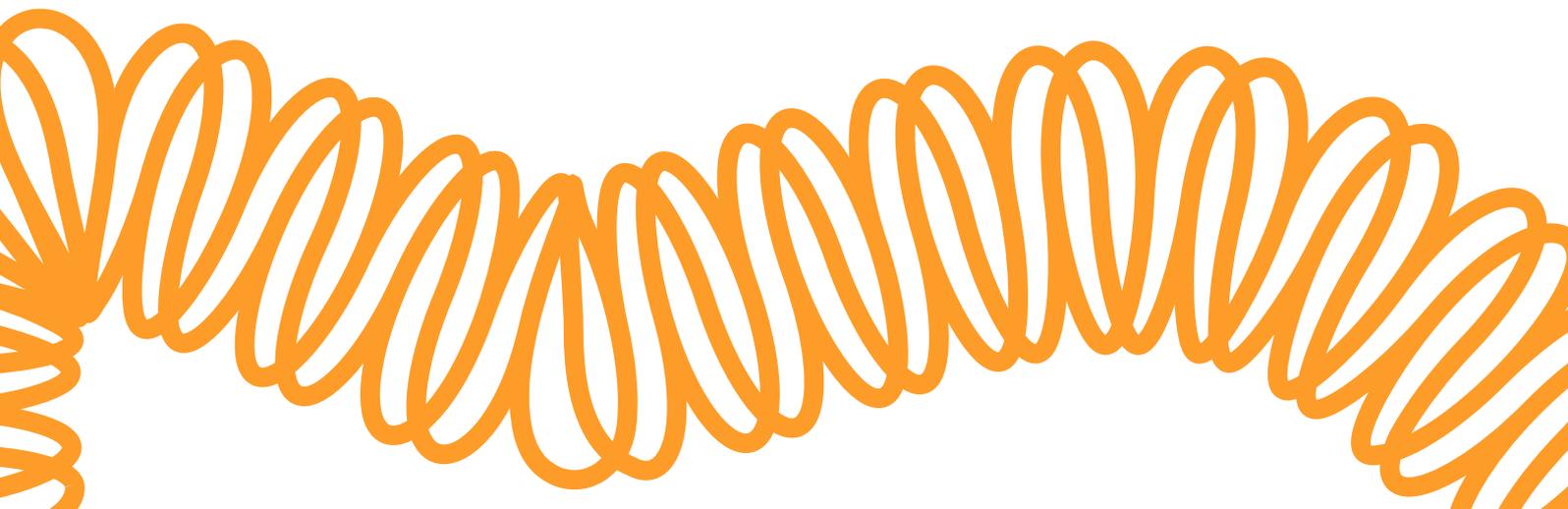
Studies included in this review

The full table of studies with further information on each study can be found here.

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Appendix 1 – List of physical function tasks

Name of task	Overview	Outcome measure	Area of focus
30-second chair stand test	The older person starts in a seated position and places their hands on the opposite shoulder with wrists crossed. On the word 'go' the person rises to a full standing position and repeats this movement over 30 seconds.	Number of repetitions in 30 seconds	Leg strength; endurance
6-minute walk test	The older person is asked to walk as far as possible in 6 minutes. They are allowed to slow down and rest during the task.	Distance travelled in 6 minutes	Aerobic capacity; endurance
Back scratch test	The older person is asked to place one hand behind the head and back over their shoulder. With the other hand they are asked to reach towards the other hand.	Distance between fingertips	Upper body flexibility
Chair sit and reach test	The older person sits on the edge of a chair with one foot on the floor and one leg stretched out in front. The older person is instructed to reach forward to the toes.	Distance reached	Lower body flexibility
Four Square Step Test	Four canes are placed on the floor in a cross position. The older person is asked to step across the canes into the different boxes following a sequence. Time to complete the task is recorded and indicates the level of fall risk.	Time (seconds) to complete task	Stability; fall risk
Handgrip strength test	This test uses a handgrip dynamometer to measure strength. The older person squeezes the dynamometer with maximum effort for 5 seconds.	Weight value (kg and lbs.)	Hand and arm strength
Single Leg Stance Test	The older person must stand unassisted on one leg for as long as possible.	Time (seconds)	Static posture; balance; fall risk
Timed up and go task	The older person starts seated and is asked to stand up, walk a specified distance, turn around, walk back and sit back down. Time taken to complete the task is recorded and indicates the level of fall risk.	Time (seconds) to complete task	Balance; fall risk





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