



# Older people & culture

Long Live Arts is initiated by The Cultural Participation Fund (FCP), Fonds Sluyterman van Loo, Stichting RCOAK, VSBfonds and the National Centre of Expertise for Cultural Education and Amateur Arts (LKCA).

## Older, culturally active and full of life

How arts participation contributes to health, welfare and independence.

Europe is the world's fastest ageing continent: one third of Europeans is 65 years or older. That percentage will increase in the years to come. This raises big questions. How do we make sure this age group will grow old in a dignified, happy and healthy way? How do we keep health care affordable? And how do we help them stay independent for longer? Finding the answers is an important humanitarian and economic challenge.

The macro-economic question of how we will finance health care and humanitarian questions about quality of life are closely linked, because happy people are, on average, healthier and more independent. This co-relation is well founded in science, and so is the relationship between cultural and social activities, and mental and physical vitality. Ageing, it appears, has less influence on people who stay actively involved in fascinating, challenging activities. Which aspects of artistic activities make the difference? And to what should you pay attention when offering arts to older people?

This short literature study will seek the answers to these questions by looking at the underlying (neuro)psychological processes. Five characteristics of arts participation will be highlighted: the relationship between happiness and health; the positive effect of plural stimulation (motorial, emotional, sensory, social) on older brains; the influence of fascinating activities on declining attention spans; the influence of social cohesion and personal interaction on happiness, and the contribution of meaningful activities to a positive sense of identity.

## Happiness and well-being

Happy people visit the doctor less frequently and they tend to live longer. This statistical pattern has been verified in 46 countries.<sup>1</sup> Statistics, though, do not reveal causes and effects: do happy people stay healthier, or do healthy people become happier? The Dutch researcher Ruut Veenhoven concludes that in the majority of cases health follows happiness.<sup>2</sup> This is apparent in multiple studies in which large groups of people were followed for years through a questionnaire. In one of these studies, people who said they were happy at the beginning, visited the doctor less frequently 12 years later. On the other hand, people who were healthy initially and did not visit the doctor often, had not become happier after 12 years.<sup>3</sup> Happiness creates health, but it has not been possible to prove that happiness aids healing. Among groups of patients and fragile older people, the relationship is not unambiguous. Happiness and optimism, for example, could not be shown to have a life prolonging effect in cases of cancer.<sup>4</sup>

Happiness in life does not make you healthy, but it keeps you healthy. This means that to invest in human happiness, but also in the continuation of that happiness, is important to national health. But that continuity is often tested above the age of 65. Society gradually shuts out older people, friendships fade, declining health gradually limits mobility and the enjoyment of the senses. In many cases there is also a decline in income. All the more reason to invest in activities that contribute to a happy and meaningful life during this life phase.

Happiness – the value people attribute to the life they lead – is only partially dependent on income and health. Genetic, social and mental characteristics are also of influence. The love and cohesion within a relationship and a group of friends, the acquisition of new skills and experiences, and the ability to enjoy (simple) things largely make up the experience of happi-

ness.<sup>4</sup>

Statistical studies in Norway<sup>5</sup>, Scotland<sup>6</sup> and the United States<sup>7</sup> clearly show a positive relation between sports and cultural activities on one side, and contentedness, optimism, and being worry-free on the other. The relationship with health appears here as well. People, who over the years give up on their cultural activities, also become more depressed and anxious.<sup>8</sup>

### **Art and vitality**

Participating in cultural activities seems to make people happier and helps people stay healthy and full of life. The combination with older people is therefore promising. The number of studies about cultural programmes for older people runs in the thousands. Unfortunately, the majority of these studies fall short in their methodology, and therefore the ability to distinguish between objective as well as subjective effects, and good intentions becomes difficult. Researchers at the University of South Florida analysed 2205 studies in 2012, of which they discarded 2194: a meagre harvest. The eleven studies who did meet their scientific criteria were consistent in their conclusions and justified the hypothesis that arts participation is good for older people: participants of the eleven studies were less anxious, less depressed, used fewer medications, showed better physical balance, and scored better in cognitive tests than the older people in the control groups.<sup>9</sup> A remarkable result if you keep in mind that the theatre, choir, dance, and visual arts programmes the people participated in only lasted a few weeks, which is relatively short for an artistic activity to 'really become involved'.

Most researchers took their measurements before and immediately after the programme. Therefore we do not know if the renewed vitality was permanent or if it dissolved after a few weeks. A longer study from 2005 by the George Washington University in the American Kensington shows a long term effect. In cooperation with different specialised centres, 166 older people (average age 68 years) participated. They were divided into two groups. One group took part in choir rehearsals for 30 weeks that ended with a performance. The other group did nothing special. Before the choir programme and 22 weeks after it, the participants were tested. Their test results were compared to those of the control group. While the medicine use in the control group doubled, it stayed more or less the same in the choir group. Doctor's visits rose more significantly in the control group than in the choir group. Also, the choir group reported less cases of falling, while more people tended to fall in the control group. Furthermore, the score for loneliness decreased more for the choir group than for the control group. Keep in mind: this was more than five months after the programme ended. Only the scores for depression showed no difference between the groups.

The positive effect of arts participation on older people is not only extensive, but also seems durable. The question is: what works? What are the underlying processes, and to what do you need to pay attention when offering arts to older people?

### **Key functions**

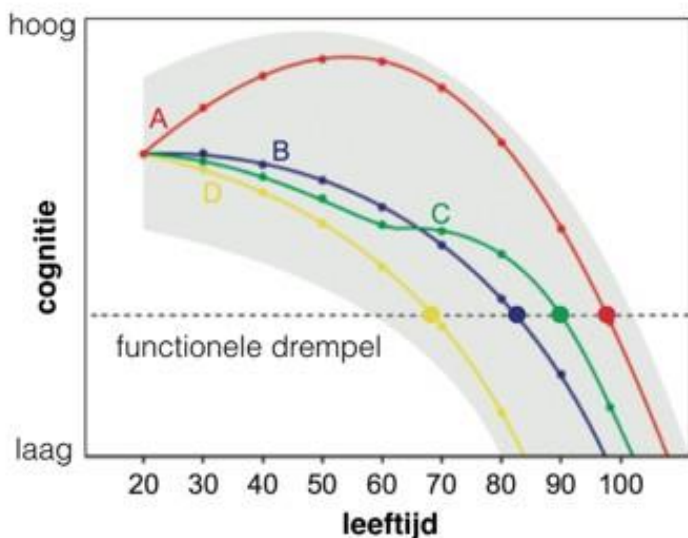
We know that ageing in the brain comes with a diminishing speed of the neural network. Neural connections work slower, because the fatty isolation layer becomes thinner. Small hitches disturb the integrity of the network: signals, therefore, have to find a way around and take longer to arrive, which causes processes to run out of sync.

The changes at a cellular level force the brain to reorganise itself. The rhythm of brainwaves slows down. Shifts in brain activity are measurable. In young people you only see the right half of the brain work while performing a mnemonic task of medium difficulty, in older people activity is measurable on both sides: the left side comes to the aid of the right side. When the

interplay becomes rougher, the older brain requires more coordination. That explains the extra activity in the prefrontal cortex (dorsolateral) where loose strings are being tied together in the brain. Elsewhere in the frontal lobe activity is reduced, at the expense of self-control. This could be seen as a natural process of decay, but researchers who study plasticity of the brain believe that the decrease in mental functions past the retirement age reflects the loss of cognitive flexibility. Society has created so many negative presumptions about old age that many people over sixty tend to put their head on their lap. Because of this, their brains lack the challenging activity they need to correct this.<sup>10</sup>

This organising and rearranging of networks is more effective when the brains receives multiple stimulations: motorial, cognitive and emotional, simultaneously. This is why challenging volunteer work has a positive influence on cognitive functions.<sup>11</sup> A group of older people in Baltimore, America, who for six months helped out at a primary school, showed remarkable changes in prefrontal areas of the brain. Areas where coordination and executive functions are executed, like planning, decision making and actively paying attention.<sup>12</sup> The effect on older people is measurable for up to five years later.<sup>13</sup>

The more challenging the activity, the later in life symptoms of Alzheimer's disease become apparent. This is also true for training that is done decades before the first symptoms (mild cognitive impairment) show. The reverse is not true: the first signs of the disease do not correspond with a decrease in mentally stimulating activity.<sup>14</sup> It looks like challenging activities like volunteer work, performing music and reading books create the same cognitive reserve capacity that is needed to moderate the consequences of the disease, making people independent for longer.<sup>15</sup> On the other hand you see the disease progress faster afterwards. This means primarily that functional years are gained. Also the extent of one's social network influences the age at which Alzheimer's disease starts to show.<sup>16</sup>



Cognitive development during life can follow different curves. Curve A corresponds with a cognitively challenging life. Curve D with a life of mental and physical neglect. Curve B and C show the gradual decline most people go through. Curve C, though, makes a jump around the age of 65, because of new challenges and opportunities for the brain to adapt to internal changes. The point where cognitive ability drops below the point of independence is particularly important. For C it appears years later than for B. [10].

Graph: High – Cognition – Low / Functional threshold / Age)

It is obvious that a lot of research on the effect of cognitive stimulation looks at practising the arts, because art especially, stimulates the brain in various ways. Think of dance and theatre where in one fluent activity motor skills, coordination, (body) language, and visual, auditory, and emotional networks are activated. In a study from 2009, over sixty older people from subsidised homes for the elderly in Chicago practised theatre.<sup>17</sup> A second group sang and a third group did not participate in activities. The average age was 81.7 years: half used a cane, walker

or a wheelchair to get around. The two groups visited eight meetings in two weeks, where they were guided by professional singers and actors. Classes were challenging and ambitious in set-up. The drama group was about the essence of acting, not about memorising and repeating lines. The music group contained breathing techniques, complex rhythms and polyphonous singing. Nothing needed to be memorised here either. Lyrics were provided on paper. Despite the limited amount of classes, an interesting improvement was measured in problem solving abilities and working memory in the drama group one week after the programme. Researchers point out that drama lessons directly appeal to these cognitive functions in a playful manner. "In almost every theatre context there is a problem that needs to be solved," they write. This might explain why the choir lessons, with the same stimulants, concentration and exaltation, did not have the same cognitive effect.

Brain training works 'impulse specific': only required brain functions are improved. Doing crossword puzzles improves your crossword solving skills first. Working memory takes a special position because it plays a key role in many different daily situations.

Music responds to a different deteriorating key function in the older brain. Difficulty in filtering white noise is an important cause of hearing issues at an advanced age. Older people who played music their entire life are not as bothered by surrounding noise as peers who never sang or played an instrument.<sup>18</sup> A recent study shows that the latter group can repair this filtering capacity through specific auditory training. This can be done in a relatively short time. The training programme in this research lasted eight weeks.<sup>19</sup> The participants were between 55 and 70 years old.

Dancing improves balance and walking speed and contributes to the prevention of falling. Dance also improves motor skills in older people. This correlation was shown in a 2010 programme with the Lebed Method, which contained dance steps and choreography to music.<sup>20</sup> In a different study, forty Turkish women of 65+ years were divided into a dance group and a control group. The dance group clearly performed better in tests than the control group. The tests varied from walking twenty meters, getting up out of a chair, walking up and down the stairs and physical balance.<sup>21</sup> In a cumulative study of fifteen dance studies the authors talk about relatively solid proof that dancing can significantly improve the aerobic capacity, muscle endurance, power and flexibility of the lower body, as well as, static and dynamic balance, and agility and walking speed in older people.<sup>22</sup>

### **Fascination and focused attention**

Can we explain these results? Which factors play a part in determining the success of one activity over another?

"If you have legs, you can dance", was the basic hypothesis of a tango show with older Canadians that was researched in 2008. Participants varied in age from 62 to 91, some of them with limited mobility, and were trained in the tango for two times two hours a week over the course of ten weeks. The results were compared to the control group, who went walking on the same time schedule. The participants in both groups got the same amount of exercise and had the same opportunities to socially interact. The dance group clearly showed more improvement: in balance as well as – surprisingly – in walking speed. This might be due to the tango being more varied in movement. The fact that dance was more challenging and therefore was experienced more intensely, definitely played an important part. One could call the focused attention a

brain trainer. Attentively executed activities are mastered faster than inattentively executed activities. Attention prevents white noise from interfering with the learning process in the brain.

Focused attention decreases in older people, while involuntary attention increases. The latter form of attention targets the impulses from the surrounding environment. Older people are distracted more easily. And once they are distracted, it is difficult to regain attention and continue what they were doing. Again the cause of waning attention is the gradual decay of the integrity of the neural network. The visual cortex (which processes distracting impulses) and the frontal cortex (where plans and activities are coordinated) slowly lose their connectivity. When activities are performed with less interest, the brain is given less opportunity to restore integrity. This causes a downward spiral. A choice for activities that are fascinating and that require focused attention could help break the cycle. This could explain why attention training with older people shows a positive effect on cognitive ability seven years later.<sup>23</sup> Activities like dancing and music will have a comparable result due to their complexity.<sup>24</sup>

While performing fascinating activities, attention is not only increased, but is also targeting the right areas to implicitly support the learning process. Attention should be focused on what is gained and not on technical obstacles. One learns golf faster when one is focused on the movement of the ball and not on the position of the arms and legs, muscle tension or moving the centre of gravity.<sup>25</sup> In other words, when you are focused on what you can do and what goes right. This is often what happens when practising a form of art. When you dance you automatically want to stay in the rhythm of the music and follow your dance partner. When you are acting you want to deliver an interactive performance, express the inner workings of your character. Having fun is the driving force behind a process which automatically solves technical obstacles. The effect of artistic activities will be the greatest when participants do something that suits them. Someone who prefers drama, comedy, cabaret or dance will benefit most from those particular activities.<sup>26</sup>

Dementia creates disorientation about time and space in older people; their attention goes everywhere. People suffering from dementia who participated in 'Memories in the making' had a surprisingly long attention span, researchers discovered.<sup>27</sup> The programme used arts and creativity to help people suffering from dementia record their life stories. Even if you lose the ability to express yourself through language, the desire still remains. Even if you effectively lose thirty years of your active life, it does not mean you stop existing. These are the ideas behind the project.

### **Social interaction**

Besides performing actively, participants in dance, theatre, or choir groups for older people, also stimulate their social contacts. Many studies into the subjective experience of participants conclude that social cohesion is one of the (if not the most) important values. Working together towards a choir performance, or act out a play together means experiencing something together, and that has a bonding effect.

Brunel University did a study on 32 older British ladies (60 to 85 years old) who dedicated themselves to various forms of visual art like painting, modelling, ceramics and textile.<sup>28</sup> The changes to their lives were mapped through structured interviews. Besides personal enrichment and challenges, most of them mentioned a connection with the outside world as an important factor. Through participation in arts groups and exhibitions they felt connected to the

community and to their friends. Children and grandchildren can play a stimulating part in programmes for arts participation. Programmes which involve children and grandchildren can break social isolation.<sup>29</sup>

It is apparent that social interaction and social cohesion contribute to cognitive and emotional development. Also, the happiness study shows the importance of social factors. People who go to a sports club, arts class, yoga group, or church a few times a week are happier than people who have less social contact.<sup>30</sup> People who are involved in team sports are happier and more optimistic than people who practise individual sports.<sup>31</sup>

What is true for the whole of the population is also true for older people. Loneliness lurks around the corner for this age group. And loneliness not only influences happiness negatively, but mental and cognitive functions as well.<sup>32</sup> This is partially due to the fading of social interaction, but also to the negative influence of depression, which often comes with loneliness. Loneliness amplifies depression and depression amplifies loneliness.<sup>33</sup>

The urgency of loneliness becomes clear in the study of the performing British dance group 'Company of Elders' (65-85). The group consists partially of dancers and choreographers, but also of people who never danced before in their life. When asked about the most important benefit of the dance activity, a majority of members mentioned the chance to touch each other.<sup>34</sup> Many members of the group lost their partner, and with that, most occasions to be touched.

In a study of a group of seventeen older people with dementia or aphasia, who were part of a percussion group, researchers found that, despite their cognitive limitations, they were able to play on the same level. Everyone was in charge at some point. 'Performing music gives people who have lost their ability to speak a possibility to interact with others,' the researchers of the University of New England write.<sup>35</sup>

### **Positive identity**

Different studies report on the development of a more positive self-image in participants of arts projects for older people. During the project participants start to pay more attention to how they look: clothing, make-up and jewellery betray a new-found self-image.<sup>36 37 38</sup> In a project at Keele University in British Staffordshire, eleven older people (51-85 years old) worked together for three months in different art forms like painting, ceramics, glass engraving and writing. Together they worked towards an exhibition of their work. The participants felt connected and strengthened because they could disprove the negative stereotypes about older people in their surroundings.<sup>39</sup> The researchers chose a quote as a title for their work: '*I don't think they knew we could do these sorts of things*'.

In many Western countries old age is associated with concepts of 'decay', 'futility', and 'dependency'. These labels have sneakily formed the culture around older people, which tends to lean towards the patronising. Expectations are generally not very high, not only regarding physical activities, but also on a cognitive, social and creative level. Many activities for older people are not seen to exceed the level of occupational therapy. It is inevitable that older people will start to believe this as well. And there is a higher chance of them acting like it. People in general are susceptible to the stories we tell about each other and ourselves. In recent years a series of studies has shown that people who have low self-esteem are more vulnerable and less independent because of it. Especially in a state of stress, their performance is significantly poorer when they don't feel good about themselves. Negative stereotypes can block older people cognitively.<sup>40</sup> Believing you can't do something, can easily become a self-fulfilling prophecy. Confirmation exercises, in which test subjects can tell or write about themselves and their per-

sonal values in life, have a positive effect on the functioning of the subjects.<sup>41</sup> Believing in yourself helps, literally and figuratively, to be more confident.

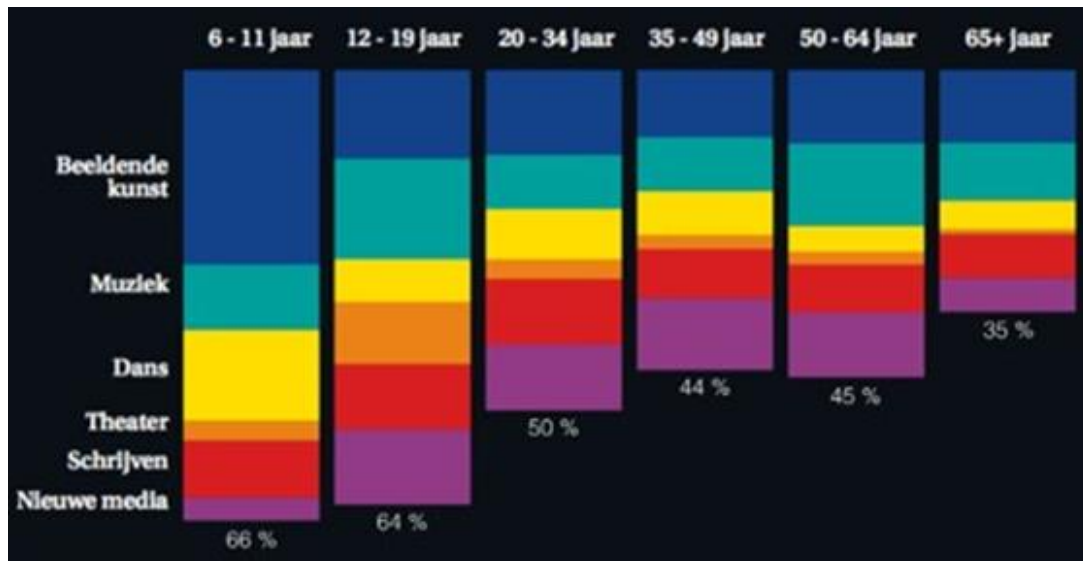
In many of the reviewed studies involving arts programmes, older people were taken seriously. Artists didn't kneel for participants, even though some were in a wheelchair or had to use a cane or walking aid. Older people did not seem to mind that at all, because there were very few drop-outs. Likely, this refreshing and positive approach played an important part in the recorded improvement. In a five-year-long dance programme with 28 older people in British Nottinghamshire, researchers reported an increase in energy and confidence, because participants were able to shed their stereotypes.<sup>42</sup>

### **Conclusions**

During a large part of life, cognitive developments in people follow a parallel path, but after the age of 60 we see distinct differences appearing. Some people deteriorate faster than others. These differences are mainly influenced by a healthy lifestyle and cognitive challenges in the past. But their current attitude to life has an influence as well: passiveness, loneliness, apathy and a low self-esteem can speed up deterioration. Due to a lack of inherent and external impulses the brain can't adapt to the neural changes caused by ageing. Challenging activities around the age of 65 can create a cognitive leap forward, making it possible for older people to stay independent for longer.

Cultural participation could play an important part in this. A series of solid scientific studies is unanimous on the influence of active participation in dance, theatre, music and visual arts. Positive effects appear as a result of plural stimulation through artistic activities and the fascination that arts can cause. Fascination stimulates focused attention and learning processes in the brain. Arts programmes are most effective when participants do something that suits them personally. Someone who likes drama, comedy, cabaret or dancing will benefit most from that particular activity.<sup>43</sup> The largest effect takes place when arts programmes have the ambition to learn and push the boundaries, and when they are taught by professional art, theatre, music, and dance teachers. Attention should focus on artistic merit and not on technical obstacles. The social context of cultural activities is also important. The cohesion of weekly group activities can reduce, or eliminate, loneliness. Loneliness has a strong negative influence on body and mind.

The development of a positive sense of identity is a third factor. Older people who participate in theatre, perform music, and dance develop a more positive self-image. Such a positive image makes them less sensitive to stress and helps them deal with adversity.



Participation in amateur art in the Netherlands per age group. Despite of having spare time, older people retreat from cultural life. While arts participation in the 50-64 age group is around 45 percent, for the 65+ age group it is 35 percent. [42]

Older people and arts participation form a golden combination. Even so, people seem to retreat from the arts after retirement. The number of amateurs in music, dance, drama, arts and new media shows a decline for the 65+ year age group over the entire spectrum in the Netherlands.<sup>44</sup> This is surprising given the fact that there is an increase in spare time. Older people seem to drop out during a phase in which they have time for arts participation, even though their cognitive development would clearly benefit from it. A similar trend is also visible in other parts of Europe.

The negative image of older people probably plays a part as well. Dancing and acting are usually associated with young people and tight bodies, not with troubled walking. Learning to play a musical instrument often meets resistance, because people are convinced of their inevitable deterioration. It is past time to deal with labels like 'deteriorating', 'futile' and 'dependent', that surround ageing in many European countries, that and undermine the independence of older people. Real projects, like the British dance group 'Company of Elders', can help fight social stereotypes. They can stimulate older people to not retreat after their retirement, but invest in their own development.

*The author is a science journalist, based in Amsterdam.*



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