

## Participatory Arts for Older Adults: A Review of Benefits and Challenges

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This article reviews the scientific literature on the enhancement of healthy aging in older adults through active participation in the arts. Methodologies and conclusions are described for studies of dance, expressive writing, music (singing and instrumental), theatre arts, and visual arts including documentation of mental/physical improvements in memory, creativity, problem solving, everyday competence, reaction time, balance/gait, and quality of life. In addition to these gains in measures of successful aging, the article also provides (in a [Supplementary Appendix](#)) some selected examples of arts engagement for remedial purposes. Finally, it offers suggestions for expanding inquiry into this underinvestigated corner of aging research.

*Key Words:* Arts, Quality of life, Cognition, Health benefits

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Remedial use of the arts has a long history (e.g., [Hill, 1948](#)), but studies on enhancing healthy aging through arts participation are fairly recent. One advantage of the latter approach is its relatively low cost, generally using a single instructor and no expensive equipment. However, a search of the

literature revealed only 31 evidence-based studies on this promising field. First, a few definitions:

The term, “participatory arts,” concerns art making rather than art observing (e.g., dancing as opposed to watching dance performances.) We distinguish between two overall types:

1. *Wellness Studies* concern promotion of cognitive, emotional, physical, or psychological health in nondemented older adults capable of performing normal activities of daily living.
2. *Treatment Studies* fall within the following definition, “. . . the therapeutic use of art making . . . by people who experience illness, trauma or challenges in living ([American Art Therapy Association, 2012](#)).

**Aims:** The primary purpose of this review is to collect and describe current and past Wellness Studies (as defined above) and to promote future investigations with a strong evidentiary base. A secondary purpose is to indicate the extent and variety of Treatment Studies by presenting a sampling of the voluminous treatment literature (see [Supplementary Appendix](#)).







Table 1. (Continued)

Author/year	Type of art	Design	Number of participants	Outcome Measures	Key Findings
Clift and colleagues (2012)	Music (choirs)	Randomized controlled trial (pretest and two post-tests; singing group vs. control)	N = 265; age > 60	Quality of life (York SF-12); psychological well-being (Hospital Anxiety and Depression Scale)	Improved mental health at 3 months; reduced levels of depression and anxiety
Coffman (2008)	Music (musicians)	Survey study	N = 1,652; average age: 70	EDI incorporating SF-36	Self-reported emotional and physical well-being, cognitive stimulation, socialization benefits
Hanna-Pladdy and Mackay (2011)	Music (instrumental)	Quasiexperiment (high & low activity musicians, and nonmusicians)	N = 70 Age range: 60–83	Trails A and B; Boston naming test; visual reproduction, Visual Reproduction VRII; CVLT (short form)	Musicians had higher nonverbal memory recall, visuomotor speed and sequencing; greater cognitive flexibility
Hanna-Pladdy and Gajewski (2012)	Music (instrumental)	Quasiexperiment (musicians >10years experience) vs. nonmusicians)	N = 70; age range: 59–80	Same cognitive battery as above, except long form of California Verbal Learning Test	Musicians scored higher on verbal working memory, verbal memory, verbal fluency, visuospatial functions
Hillman (2002)	Music (choir)	Questionnaire survey (response range = 75%)	N = 79; age > 60	EDI (33-item questionnaire on perceived benefits of singing)	Perceived improvement in emotional and social well-being, quality of life
Koga and Tims (2001)	Music (organ players)	Quasiexperiment (organ players and no-treatment control group)	N = 100; age: > 65; age range: 62–95	Mental Health Inventory-FN4; Profile of Mood States	Lower levels of anxiety, decrease in perception of loneliness; increase in human growth hormone (hGH)
Solé and colleagues (2010)	Music (choir)	Pre-post quasiexperimental design (choir, music appreciation, music therapy)	N = 83; mean age: 72.6	Depression and Dejection-FN5; psychological health questionnaire; blood tests	No significant results. Some anecdotal self-reports of life satisfaction and optimism
Theatre Davis (1985)	Theatre	Exploratory study—quasiexperiment without control group	N = 15; age range: 64–87	Life satisfaction (Lawton); depression (Yesavage), self-esteem (Rosenberg). EDI	Downward trend on anxiety and one measure of hostility
Noice and colleagues (1999)	Theatre	Single-group before-after design (Pilot study)	N = 13; age range: 65–82	Gottschalk and Glaser (1969); hope, anxiety, human relations, and four aspects of hostility	Significantly higher recall and recognition scores at post-test

(Table continues on next page)

Table 1. (Continued)

Author/year	Type of art	Design	Number of participants	Outcome Measures	Key Findings
Noice and colleagues (2004)	Theatre	RCT (theatre, visual art, waiting-list control—two post-tests)	N = 124; age range: 60–86	Word recall, memory span, problem solving; Self-esteem (Rosenberg), psychological well-being (Ryff, 1989)	Theatre group showed increase in word recall, problem solving, and psychological well-being
Noice and Noice (2009)	Theatre	RCT (theatre, singing, waiting-list control)	N = 122; age range: 69–93	Immediate and delayed word recall; verbal fluency; East Boston Memory Test; Means-Boston problem solving. Personal growth (Ryff, 1989), MCI (Lachman); Lifestyle Activities Questionnaire (Wilson)	Improvements in recall (immediate and delayed), verbal fluency, problem solving; personal growth
Noice and Noice (2013)	Theatre	RCT (theatre, waiting-list control) taught by activity directors and an outside acting teacher	N = 97; age range: 68–94	Similar to 2009 plus Observed Tasks of Daily Living-R (OTDL)	Theatre group improved on OTDL, problem solving, and verbal fluency demonstrating that successful administration did not depend on individual qualities of original instructor. Perceived improved confidence and self-esteem; enjoyed being creative
Pyman and Rugg (2006)	Theatre (music hall)	Semistructured interviews	N = 8; age > 60	Interviews to assess personal enrichment	Perceived improvement in psychological well-being and physical health; enjoyment of social interaction
Yuen and colleagues (2011)	Theatre	Single-group design (pretest and post-test)	N = 12; age range: 62–88	Subjective well-being (General Well-Being Scale); SF-36; individual interview	Perceived improvement in psychological well-being and physical health; enjoyment of social interaction
<b>Visual Arts</b> Greer and colleagues (2013)	Painting	Semistructured interviews; observation (over 14 months)	N = 11; age range: 66–79	Observation; EDI (Self-rated physical and mental health)	Self-perceived improvement in mental and psychosocial health; sense of calm and relaxation
Kim (2013)	Painting and clay art	RCT (art therapy and control group) pretest and post-test	N = 50; age: 69–87	State-trait Anxiety Inventory; Positive and Negative Affect Schedule, and Rosenberg's Self-Esteem Scale	Reduced negative emotions and anxiety; improved self-esteem
Reynolds (2010)	Painting, pottery, or textile art	Semistructured interviews	N = 32; age range: 60–86	EDI (interviews to assess motivation for creating art, and benefits derived)	Perceived their lives as more meaningful, derived enjoyment, and satisfaction from art

Note: The designation EDI under Outcome Measures indicates that an experimenter-devised instrument was used in addition to, or instead of, standard measures.



## *Expressive/Autobiographical Writing*

De Medeiros, Kennedy, Cole, Lindley, and O'Hara (2007) performed a quasiexperiment with retired physicians and their spouses who had enrolled in an 8-week autobiographical writing workshop that used different narrative forms: memoirs, letters, journals, poetry, and so on. Results showed significant pre-post improvement on standard measures of processing speed, attention, verbal learning, and memory. However, the lead researcher with new associates (De Medeiros, Mosby, Hanley, Pedraza, & Brandt, 2011) subsequently performed an autobiographical writing RCT, based on the same intervention, with the same instructor, and over the same time-frame, but with different outcome measures. This time the participants were nondemented older adult residents of continuing care facilities. The researchers found no advantages for the experimental group, reinforcing the importance of randomization and suggesting that original interest in writing and/or a high level of education were necessary for the beneficial effects or that the new outcome measures failed to capture improvement. Chippendale and Bear-Lehman (2012) conducted an 8-week (one session per week) RCT for 45 participants (23 experimentals, 22 controls) using a course in writing life reviews designed to combat depression or potential depression in older adults. We are including this study in the Wellness category because the overwhelming majority (18 of 23) of the experimental participants scored normal on a standard depression scale at pretest. (For controls, 13 of 22 were normal, 8 mildly depressed, and 1 severely depressed). Significant pre-post improvement on standard instruments for experimentals was found compared with controls, with those in the normal range increasing from 18 to 21, those rated as mildly depressed decreasing from 3 to 2, and those rated as very depressed decreasing from 2 to 0 (no significant changes in the control group). According to the authors, these results suggest the existence of preventative elements in this intervention.

Unlike other interventions in this review, the above writing courses were not taught by professional specialists but by the experimenters themselves, utilizing sources such as the Workbook On Writing Life Stories (Sierpina, 2002).

## *Music*

Ten investigations produced a wide variety of results. In one landmark study, Cohen and

colleagues (2006) recruited 166 demographically similar older adults. Ninety older adults were invited to join a chorale under a professional leader (singing experience not required), and 76 continued with their usual activities. They were tested individually at baseline with both standard measures and a self-report questionnaire. After 12 months, the chorale group showed positive results on the standard measures. Also, the self-reports showed decreases on number of doctor visits, number of falls, and use of over-the-counter medications, and increases on overall health rating and number of activities performed. These participants were followed for an additional 12 months. Using the same outcome measures, the researchers found similar but somewhat less dramatic results (Cohen et al., 2007).

A limitation to the studies by Cohen and colleagues (2007) is the lack of randomization; only those who volunteered to join a chorale were included in the experimental group. However, Clift, Skingley, Coulton, and Rodriguez (2012) performed an RCT in which they randomly assigned 265 participants to either a chorale performance or a usual activities (control) condition. After 12 weeks, significant decreases were seen for singers on a standard depression/anxiety scale, as well as increases on a quality-of-life scale. Although these advantages were most pronounced immediately after post-testing, they persisted at 6 months.

Hillman (2002) devised a survey instrument to determine the thoughts and feelings of amateur members of a professionally led Scottish musical organization, Call That Singing? (CTS). The 33-item questionnaire (comparing behavior before and after joining CTS) was mailed to 100 older adult members. The return rate was 75%. Results revealed that 89% of respondents regularly attended the weekly rehearsals with more than half using public transportation of up to 90 min. Participants were asked to rate their physical health, emotional well-being, social life, self-confidence, understanding of singing, quality of life, and attendance at other cultural events. Statistically significant increases were found for improved emotional well-being, quality of life, understanding of singing, and a marginally significant increase in self-confidence. Seventy-one percent of respondents had been members of CTS for more than 7 years.

The above research involved singing; other investigators looked at instrumental music. Coffman (2008) performed a survey using standard scales and experimenter-devised questions for



older adult instrumentalist members of the New Horizons International Music Association. Return rate from the musical organizations (bands/orchestras) was 94%. Not all members of each band/orchestra filled out an individual survey, but 53% of the 3,094 members did answering questions such as “Do you believe that playing an instrument in a New Horizons group has affected your health either favorably or unfavorably?” Of the 1,626 answers to that question, 98% were characterized by Coffman (2008) as, “uniformly positive” (p. 383).

A multiyear experiment (Koga & Tims, 2001) examined an existing senior music program in Clearwater, FL. One-hundred participants (half taking organ lessons and half demographically similar nonmusicians) completed standard mental health inventories plus the researchers’ psychological assessment questionnaire every 10 weeks for 50 weeks. Each participant also gave a blood sample. Results showed decreased levels of anxiety and depression and a 90% increase in levels of human growth hormone (hGH). According to the researchers, an increase in hGH (which generally declines with age) is associated with higher energy, better memory, and greater sexual function. No other wellness studies were found that used hGH or any blood measure.

Hanna-Pladdy and MacKay (2011) compared three groups of older adults equated for age, education, and gender distribution (total: 70 participants). The key variable was years of training/playing a musical instrument (>10 years [high activity] vs. 1–9 years [low activity] vs. no training). All participants were tested on a standard comprehensive neuropsychological battery. The main finding was that the musicians with at least 10 years of experience scored significantly higher than the nonmusicians on all tests except verbal memory and that the cognitive performance of the low activity group was between the nonmusicians and the high-activity group, suggesting a possible linear relationship between amount of playing and cognitive performance. No significant pre–post differences were found for the age at which the participants had started training. The researchers suggested that the results were due to cognitive reserve built up during years of training/playing but supplied no specific evidence for this. Also, the researchers felt that musicians might be more prone to engage in cognitively enhancing activities in general, and therefore, they controlled for such general activities in a subsequent two-group study

(Hanna-Pladdy & Gajewski, 2012), again demonstrating superior performance for the musicians with more than 10 years of experience over nonmusicians on their standard test battery.

Solé, Mercadal-Brotons, Gallego, and Riera (2010) using a combination of standard assessment measures and their own original questionnaire compared one participatory and two nonparticipatory musical activities (choir: 52 participants, music appreciation class: 19 participants, music therapy: 12 participants.) The latter was described as “. . . work on and practice [of] functional skills at the physical, cognitive, and social-emotional levels through music” (270). All 83 participants were characterized as healthy. Pre–post results on the standard tests showed no advantages for any of the groups. However, some individual questionnaire responses indicated perceived enhanced social relations and personal development.

Bugos, Perlstein, McCrae, Brophy, and Bedenbaugh (2007) examined working memory and executive function in older adults in an RCT utilizing individualized piano instruction. Sixteen participants were randomly assigned to 6 months of weekly half-hour private piano lessons with a requirement to practice the learned material for 3 hr per week; 15 untreated participants comprised the control group. Individual pre–post testing consisted of two standard cognitive tests. The experimental group performed significantly better on both. According to the authors, these results suggest that individualized piano instruction enhanced cognitive processes, such as attention, concentration, and planning. Delayed testing at 3 months (without intermediate practicing) indicated that the gains were not maintained.

Although not all studies produced significant results, the more rigorous ones presented strong objective evidence for the effectiveness of musical participation.

### *Theatre*

In a 25-year series of inquiries, a research team investigated the cognitive processes of professional actors. For many years, the work was purely theoretical (e.g., Noice & Noice, 2001) but eventually took an applied turn, attempting to enhance cognitive functioning and decrease risk factors for dementia in mentally healthy older adults. A series of studies using RCTs and other paradigms repeatedly produced evidence that significant increases in memory, comprehension, creativity, and





between area researchers and artist-teachers in such venues might go a long way toward building a more extensive and cohesive knowledge base. For example, EngAGE (2010), based in Los Angeles, offers professional arts instruction to over 5,000 seniors residing in 27 primarily low-income apartment buildings. It seems highly likely that such arts organizations would welcome inquiries from researchers about setting up individual studies on their drama, dance, and other participatory arts programs, since increased evidence of their value to society could make a more persuasive case for funding. Therefore, the ball appears to be in the researcher's court. We hope this study can serve as a call to arms to investigate this vastly under-investigated area. An internet search with terms such as "older adults and arts" followed by the name of the city nearest to the researcher's college or university should uncover many opportunities. If even a few research communities initiate additional rigorous collaborative studies, participatory arts may stand on a much stronger footing as valuable evidence-based additions to the senior health toolkit.

#### Supplementary Material

Supplementary material can be found at: <http://gerontologist.oxfordjournals.org>.

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