

# Learning to perform in older adulthood: Implications for physical and mental wellbeing

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Western society is rapidly changing with the ratio of older adults constantly increasing, making their contributions to society even more vital than before. Therefore, strategies enabling them to maximize their potential of living healthy, independent lives while minimizing the need for long-term (nursing) care are growing in importance. This exploratory study, a strand of the *Rhythm for Life* project at the Royal College of Music, London, investigated the role that music could play as such a preventive strategy. The study used a quasi-experimental mixed-methods design with 72 participants aged 50 years and older, and an age-matched control group. Participants were grouped into either experimental (learning an instrument) or control (activity as usual) groups, and assessed at baseline level and after ten weeks. Qualitative data were obtained through observation, as well as an individual case study, and quantitative data through established self-report assessment questionnaires. Results presented a positive impact of learning an instrument and making music on older adult learners, especially an improvement in mental wellbeing and hand flexibility.

*Keywords:* making music; older adults; wellbeing; stress management; flexibility

The number of people aged sixty and above is expected to double by 2050 and surpass the number of younger citizens (United Nations 2009). Consequently, (Western) society will increasingly depend on the contributions this significant part of the population is able to make. The importance of finding preventive strategies to reduce or delay age-related decline becomes an increasingly relevant priority for public health. Cognitive and physical decline (slower reaction time, decrease in perception, memory and motor skills) are common with increasing age and associated with a decline in motivation and

natural withdrawal from (social) activities and a lower quality of life (see Figure 1). Research has examined these challenges in various ways, both (1) on a neurological level and (2) with more subjective variables (e.g. quality of life).

Making music is an ideal tool in this context due to its role as a popular leisure activity. While neurological evidence shows that engaging with music can enhance the aging brain's cognitive abilities, qualitative research demonstrates an improvement of quality of life and an increase in self-fulfillment and wellbeing (VanderArk *et al.* 1983, Zelazny 2001, Hoyos *et al.* 2003, Bangert and Altenmüller 2003, Hays and Minichiello 2005, Cohen *et al.* 2006, Bugos *et al.* 2007, Perkins and Williamon in press). To test this in regards to learning a musical instrument, the current investigation was undertaken as a strand of the *Rhythm for Life* study at the Royal College of Music, London (RCM; see Perkins and Williamon in press). It explored: (1) does learning an instrument for a 10-week period have an influence on the subjective wellbeing of a group of older adults, and (2) in this setting, does making music influence (a) stress management, (b) flexibility (overall flexibility and flexibility of the fingers), and (c) intake of medication (prescription and over-the-counter).

## METHOD

### Participants

The study was conducted for a 10-week period (May 2011 to June 2011). Participants included 72 older adults between the ages of 54-90 (M=68.75), divided into an experimental and a control group. Participants of the experimental group (n=40) followed a program of free instrumental lessons on the guitar (n=9), keyboard (n=18), recorder (n=8), or drums (n=5), taught either one-to-one or in small groups by RCM students. Control group participants (n=32) with a mean age of 64.90 were asked to simply follow their normal activities.

### Materials

Specially compiled teaching materials were provided by the RCM designed to ensure some continuity between different teachers and to enable the adult learners to finish their 10-week course with a semi-public concert. Musical instruments were provided free-of-charge by the RCM. Quantitative data were collected through questionnaires and comprised (1) demographical data, (2) the Short Warwick and Edinburgh Mental Health and Wellbeing Scale (SWEMWS; Stewart-Brown *et al.* 2009), and (3) the Health-Promoting Life-



Figure 1. Effects on learning an instrument as an older adult on perceived quality of life.

style Profile (HPPL-II; Walker *et al.* 1987; from the six subscales only stress management was considered). Four-point Likert scales gathered data for the variables (4) flexibility and (5) medicine intake. Qualitative data were obtained through observation of the keyboard group ( $n=6$ ) as well as an individual case study: a sixty-six year old participant with osteoarthritis.

## Procedure

Sixty-minute music lessons were offered on a weekly basis for a period of 10 weeks. Data were collected at base level and post intervention.

## RESULTS

The experimental group's mental wellbeing scores increased from pre- (median=23) to post-test (median=25.5), with a statistically significant difference in the keyboard sub-group ( $t_{17}=3.18$ ,  $p<0.05$ ; see Figures 2 and 3). Stress management improved significantly over time (pre-test  $M=2.20$ ,  $SD=0.52$ ; post-test  $M=2.3$ ,  $SD=0.54$ ;  $F_{1,58}=6.38$ ,  $p<0.05$ ). Hand flexibility improved significantly ( $Z=-3.69$ ,  $p<0.05$ ), which was supported with data from the keyboard group and case study. The positive trend for overall flexibility was too small to be significant. Data from both medicine intakes did not change.

No changes were detected in the control group (pre- and post-test), which consistently rated highly across all variables and was not overtaken in rating by the experimental group.

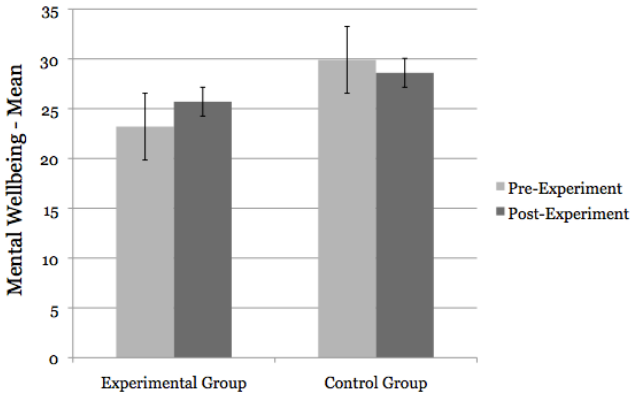


Figure 2. Mental wellbeing pre- and post-experiment.

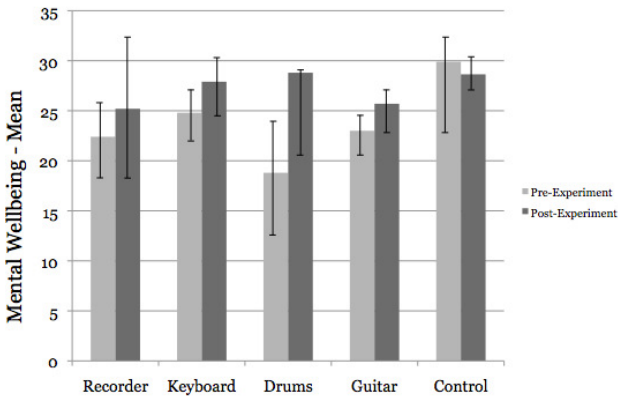


Figure 3. Mental wellbeing pre- and post-experiment (individual groups).

## DISCUSSION

It is reasonable to suggest that the improvement in wellbeing, hand flexibility, and stress management among the experimental group was connected to the fact that music lessons provide an enriched environment and active social life. This challenged participants into complex interpersonal exchanges and created a sense of purpose in old age as well as a meaningful social role (Burt-Perkins and Williamon 2011). Data from both groups suggest the importance

of social interaction in terms of wellbeing in old age, and observational data showed that pursuing lessons acted as a motivation that overcame even high pain thresholds. In turn, these mechanisms may relate to the maintenance or promotion of an efficient neural network and build a cognitive reserve (Hultsch *et al.* 1999), and may also have a neurohormonal influence on reducing stress (Fratiglioni *et al.* 2004). Further research is needed in these areas. The lack of improvement in overall flexibility might be attributed to the short timeframe or the lack of posture correction.

A limitation of the study was the assessment through self-report, which may be subject to recall bias or unwillingness of full disclosure as seen in the analysis of medicine intake data. Another limit was that the study did not take the long-term influence into account. Current changes in wellbeing might have partly been a result of life-long patterns. However, intervention trials show that an increase in health and wellbeing through social and other activities in older adults has shown promising results even over a short period of time. It appears very likely that the greatest effect is achieved through the accumulation of benefits over a lifetime, as also suggested by the data from the control group who were typically active and engaged in social activities (Fried *et al.* 2004, Carlson *et al.* 2008). Further studies on older musicians would be valuable to establish the cumulative effect. This study provides preliminary evidence that making music within a ten-week timeframe can help to improve wellbeing and aspects of health in older adults.

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