



The Influence of Piano Training on Verbal Memory in Healthy Older Adults

Anna Thorne¹

David Cromer¹

Harrison Minho Kim¹

Kevin Middlebrooks¹

Merinda Lowry¹

Roy Kennedy, Ph.D. MT-BC¹

Lisa M. Renzi, Ph.D.¹

Billy R. Hammond, Ph.D.¹

¹University of Georgia, USA

ABSTRACT

Musical training is a complex visual-motor task that has the potential to promote neuroplasticity. Piano training in older adults, for example, has been associated with improvements across cognitive domains, mood, and quality of life (Bugos et al., 2007; Seinfeld et al., 2013). Past studies, however, have not evaluated piano training in elders using a music oriented control group. The purpose of this study was to evaluate the effects of six months of piano training compared to an individualized music listening task in healthy older adults. **Method:** 23 community dwelling older adults (mean age 71 +/- 5.5 years) were recruited. Participants completed a computerized cognition battery via CNS Vital Signs (CNS Vital Signs, Inc: Morrisville, NC), as well as parts A and B of the Trail Making Test (TMT). Data from 20 participants were analyzed at baseline and post-training. **Results:** Between-subjects analysis at six months revealed that participants in the piano group had fewer commission errors on the Stroop task ($p < .01$), had higher raw domain scores in composite memory ($p < .05$) and verbal memory ($p < .05$), as well as more correct hits on delayed verbal memory recall ($p < .01$). Within-subjects analysis showed that participants in the piano group had improved raw scores at 6 months for composite memory ($p < .05$), domain verbal memory ($p < .05$), and correct hits on delayed recall verbal memory ($p < .05$), whereas scores on these measures did not significantly change for those in the listening group. Furthermore, although groups did not differ on the TMT at 6 months, the listening group did show within group differences between baseline and 6 months on the TMT Part A ($p < .01$). **Conclusion:** Piano training is associated with improved verbal memory in elders compared to a music listening task. [The author can be reached at sathorne@uga.edu]