The Working Memory of Musicians and Nonmusicians

Francesca Talamini

Abstract

We investigated the relationship between music training and memory performance by conducting three meta-analyses, one including long-term memory tasks, one including short-term memory tasks, and one including WM tasks. We also investigated the role of the type of stimuli presented in the tasks (i.e., tonal, verbal, and visuospatial), that we included as moderators. The meta-analyses highlighted that musicians perform better than nonmusicians in short-term memory tasks and WM tasks, mostly when the tasks presented tonal and verbal stimuli. In a second step, we conducted a study (ungoing study) which compared nonmusicians to musicians with different characteristics. Specifically, two groups of musicians were included, one composed by expert musicians studying at a music conservatory, and the other one composed by amateur musicians who could not read music notation. We expected to find an advantage of expert musicians over nonmusicians, but no difference between amateur musicians and nonmusicians, since we believe that only the classic music training, that only conservatory students underwent, could be linked to improved performance in WM tasks. We administered a digit span task, forward and backward, a music aptitude task (i.e., PROMS test) and, as control measures, two subtest of the WAIS-IV (i.e., "visual puzzles" and "vocabulary"). At the moment, we collected the data of 54 participants, and we did not find any difference among groups.