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Book of Abstracts

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Diaz Abrahan & Justel (9): Music improvisation modulates memory consolidation. Experimental studies about emotional memory

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Background

Music is a complex activity with great cognitive potential. However, its cognitive impact depends on whether people are playing or creating music, regardless of their musical training. A specific type of research involves implementing music-based interventions on a single session (before, during, or after a task) to improve cognitive performance (Diaz Abrahan et al., 2022). For the past ten years, in LINC lab we have employed music production (music improvisation and rhythmic reproduction) as interventions to explore their effects as memory modulators (Diaz Abrahan et al., 2019; 2020).

Aim(s)

The purpose of this presentation is to show the results of several studies that examined the effect of music-based interventions on memory consolidation for preschool children (Study 1), young adults (Study 2), old adults without cognitive impairment (Study 3) and adults with Alzheimer's disease (Study 4).

Method

In general, after acquisition of visual emotional information, the different groups were exposed to music improvisation (experimental condition), music imitation (active control condition) or silence (passive control condition) for 3 min. Then we evaluated memory through two tasks (free recall and recognition), by means of immediate and deferred measures (after a week).

Results

Across these studies, we found the following pattern of results: participants involved in music interventions showed a significant improvement in memory. They remembered more visual information than the control-condition groups, especially in the deferred measures.

Discussion and Conclusion

The emotional induction generated by the musical activities is the strongest idea that supports the results. Our findings suggest that a focal musical activity can be a useful intervention in different populations to promote memory enhancement.

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