



e s c o m¹²

12th Triennial Conference

**European
Society for the
Cognitive Sciences
Of
Music**

Book of Abstracts

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ESCOM12 (York, La Plata & Melbourne) - The 12th Triennial Conference of the European Society for the Cognitive Sciences of Music: Book of Abstracts, Schiavio, A., Daffern, H., Glasser, S., Osborne, M., Martinez, I. C., Marchiano, M., Pérez, J. B., Kempf, A., Norton, N., Gibbs, H. J., Owen, C., Kirts, C. G., O'Neill, K., Jackson, R. (org.), 2024

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Published by the University of Graz
DOI [10.25364/602.2024.3](https://doi.org/10.25364/602.2024.3)

López et al. (8): Music-based Intervention as a Memory Modulator. Preliminary results in reconsolidation

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Background

Emotional memories are the mental representation of affectively loaded events, which are stronger and less forgettable than neutral ones. After a cue-reminder presentation, consolidated memories become transiently unstable and are strengthened or updated by reconsolidation. During that period, memories can be affected by different agents, such as emotional or stressful events (Schwabe et al., 2014). Previous studies have shown that music-induced emotion can affect emotional memory consolidation (Justel et al., 2023).

Aim(s)

The present study aims to assess the effect of emotional induction through music on emotional memory reconsolidation.

Method

The first day, participants saw positive, negative and neutral pictures and were assessed through a free recall task. Twenty-four hours later, they were exposed to a cue-reminder to labialize memory and then listened to music (arousing and relaxing) or stayed in silence (control group) for three minutes. Fifteen days later, memory persistence was evaluated through free recall and recognition tasks.

Results

Emotional pictures were more recalled than neutral ones, either on immediate and delay free recall. It suggests that reconsolidation does not affect the advantage for emotional memory. We found a slightly effect of relaxing music compared to silence on negative pictures recall ($p = .044$). However, this result must be interpreted with caution.

Discussion and Conclusion

Music did not affect memory reconsolidation as we expected. The memory trace could be more responsive to music-based interventions within the consolidation window, requiring a more intense experience to effectively modulate memory reconsolidation. Our results could mean that the implemented intervention was not enough to show clear effects on emotional memories' reconsolidation. Further exploration of this issue is necessary.

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