

Can Music Therapy Improve the Symptoms of the Anxiety in Dementia?

A Systematic Review and Meta-analysis

Berne Ting^{1,2}, Kai-Jie Yang^{2,3}, Li Jingling^{1*},

Kuan-Pin Su^{1,2,4*} ¹College of Medicine, China Medical University, Taichung, Taiwan., ²Mind-Body Interface Laboratory (MBI-Lab), China Medical University Hospital, Taichung, Taiwan., ³Department of Psychology, University of Washington, Seattle, USA., ⁴An-Nan Hospital, China Medical University, Tainan, Taiwan.



INTRODUCTION

Anxiety is common in the elderly and significantly affects the cognitive and emotional symptoms in patients with dementia. Music therapy has beneficial effects to reduce anxiety. However, there is no meta-analysis about music therapy as a treatment for anxiety in dementia.^{1,2}

METHOD

We searched PubMed databases from inception to May 2021. Standardized mean differences (SMDs) were analyzed by CMA v3 software³ to obtain the mean and the standard deviation.

RESULT

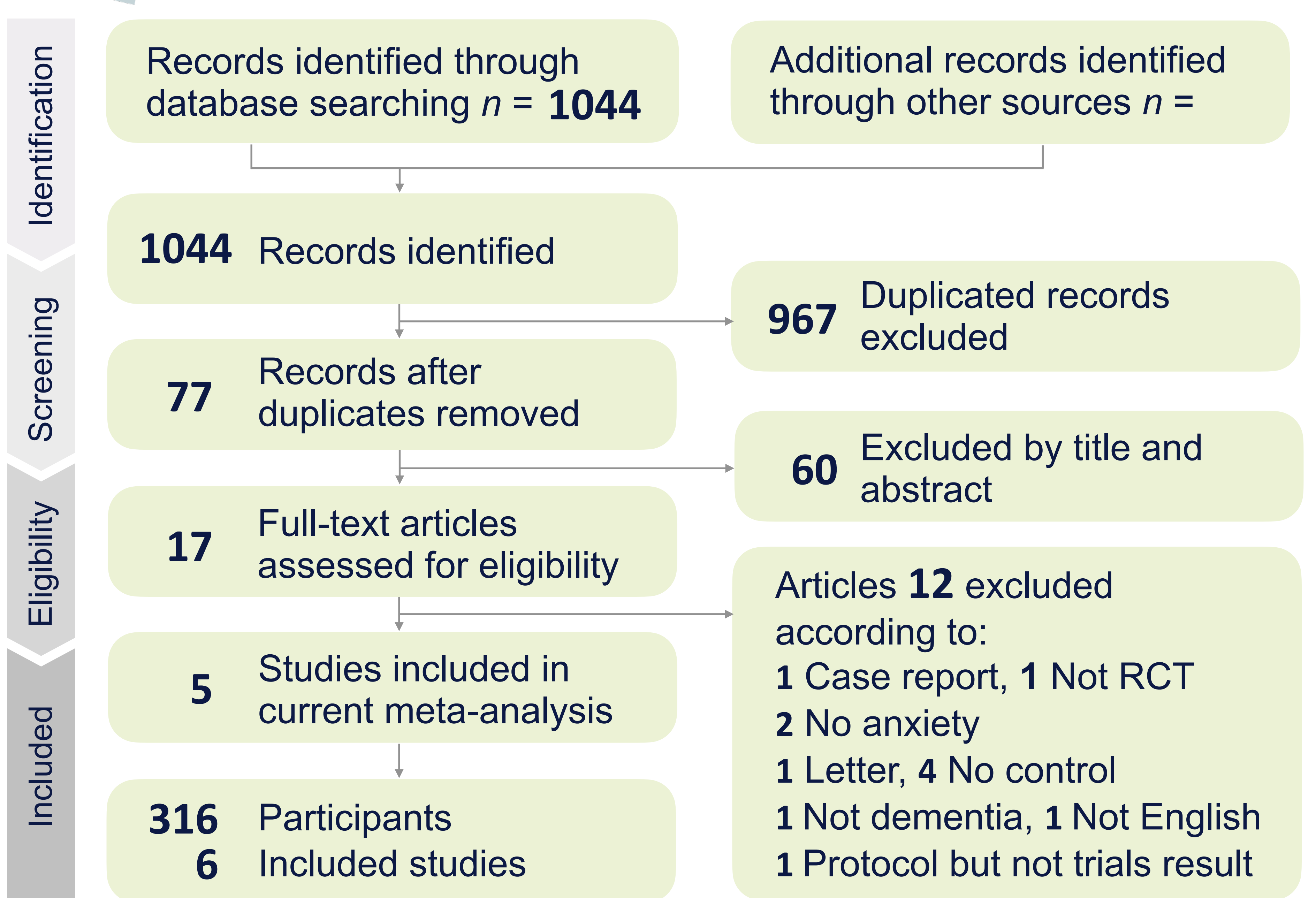


Figure 1 Network meta-analysis flow-chart Among 77 searched articles, 5 articles were included. There were 316 participants, with a mean age of 84.53 years, and the mean female population is 54.58%. We compared the data of the music therapy group, which has 163 participants, and the control group, which has 153 participants. Moreover, 80 participants had Alzheimer's Disease, and 193 participants had a mixed type of dementia. RAID and HAM-A were used as data collection tools.

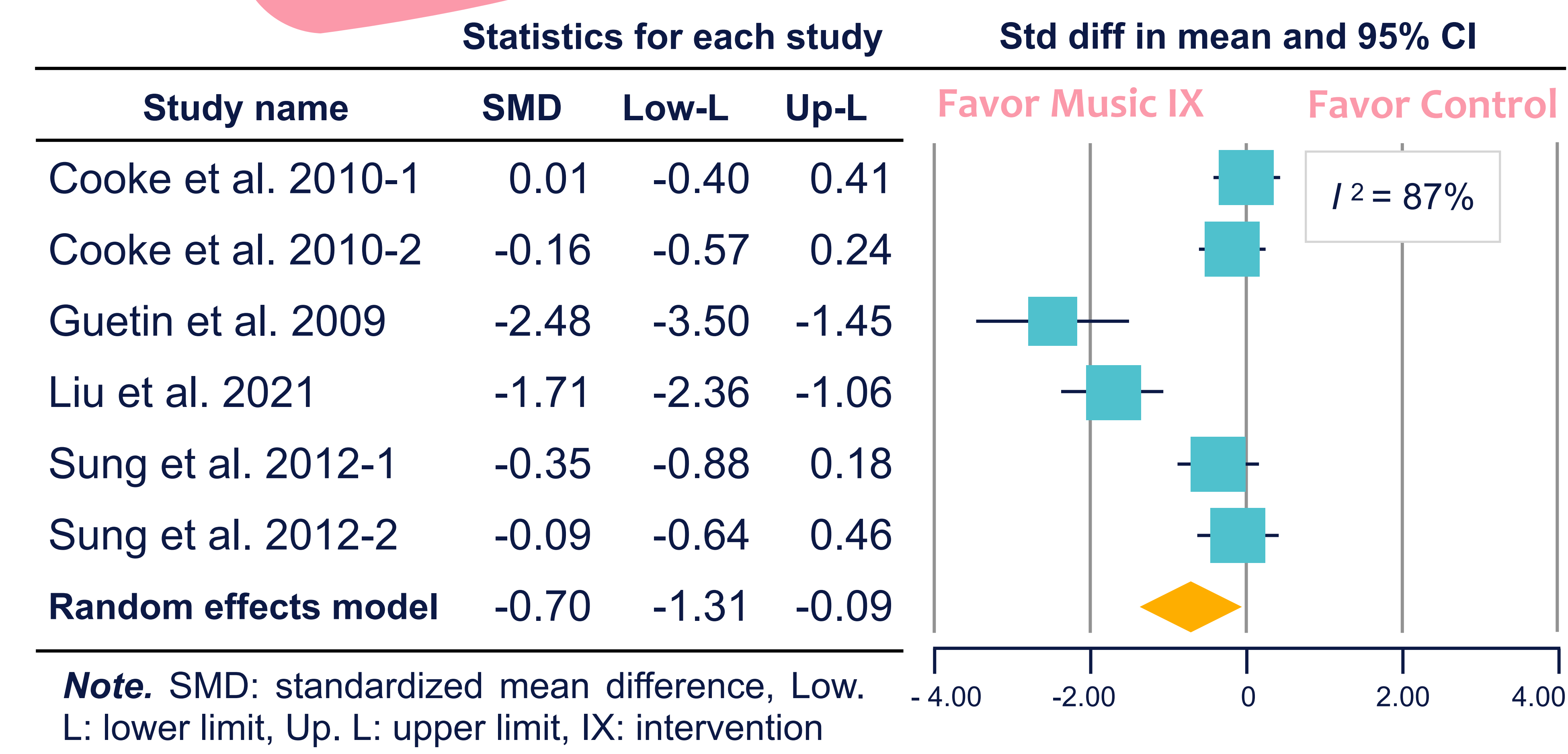
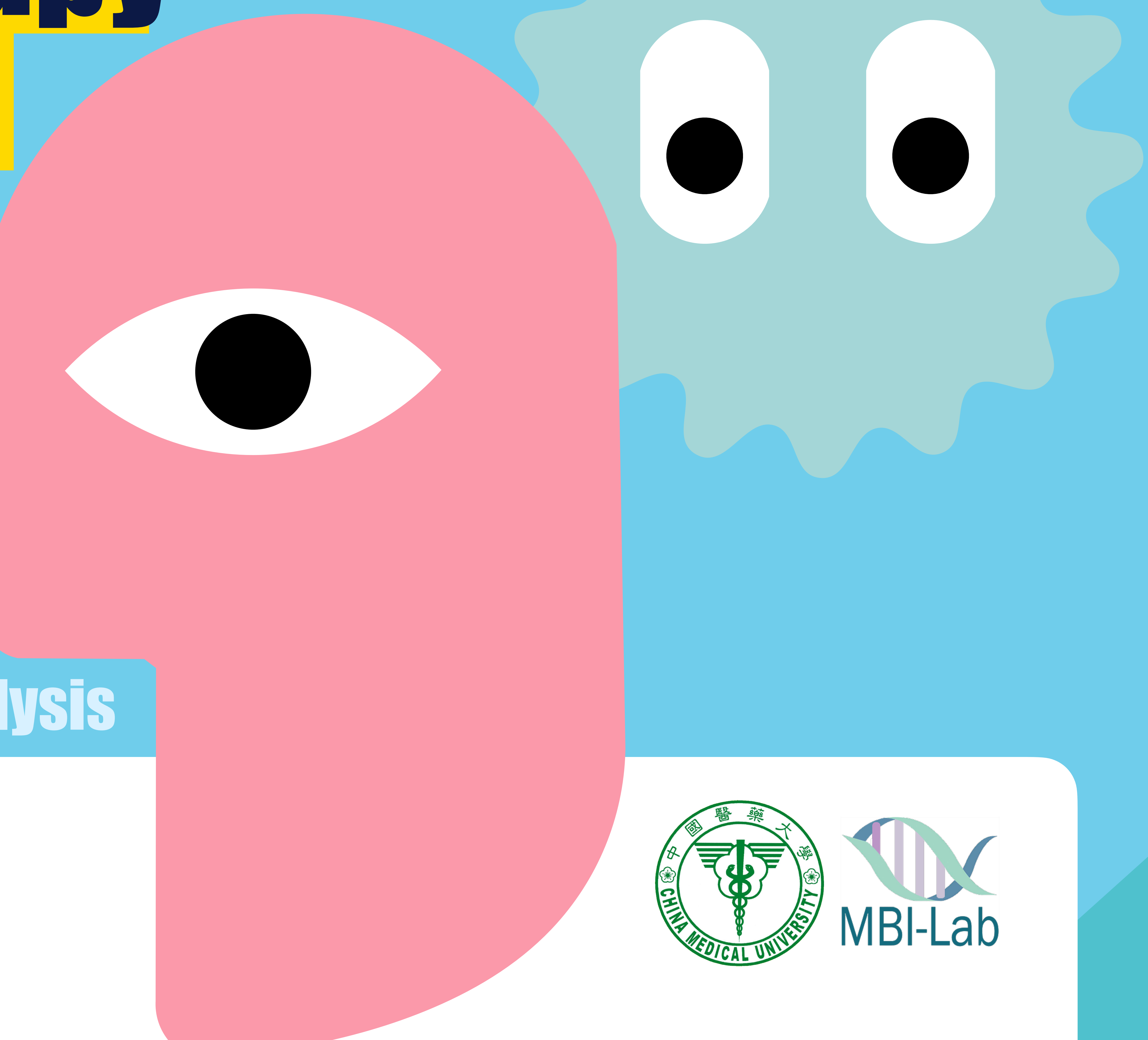


Figure 2 Meta-analysis forest plot of effects of music therapy on anxiety score. After comparing the subgroup analysis, music therapy had a better effect (SMD -0.70, 95% CI -1.31 ~ -0.09, $p = 0.024$) on improving anxiety in dementia. Moreover, comparing MT (Music Therapy/Active) ($p = 0.04$) and MM (Music Medicine/Passive) ($p = 0.46$). MT had a better effect on improving the anxiety in dementia (SMD -0.99, 95% CI -1.95 ~ -0.04, $p = 0.04$). Using live music had a better treatment effect than using pre-recorded music ($p = 0.04$). On music preference, elders preferred old songs ($p = 0.13$), but multiple types of music had better effect (SMD -2.48, 95% CI -3.50 ~ -1.45, $p < 0.01$).

CONCLUSION

Future well-designed RCTs are needed for music therapy for the anxiety in dementia.
Keywords: anxiety; dementia; meta-analysis; music therapy

REFERENCE: ¹ Liu et al. 2021 Group Music Intervention Using Percussion Instruments to Reduce Anxiety Among Elderly Male Veterans with Alzheimer Disease *Med Sci Monit*. ² Su et al. 2018 Association of use of omega-3 polyunsaturated fatty acids with changes in severity of anxiety symptoms. A systematic review and meta-analysis. *JAMA*. ³ CMA V3 software. ⁴ Picture Original design from istockphoto. ⁵ Poster design by Berne Ting.

