

Key Message: Multisensory stimulation is a simple, natural intervention that reduces neuropsychiatric symptoms and caregiver burden in dementia.

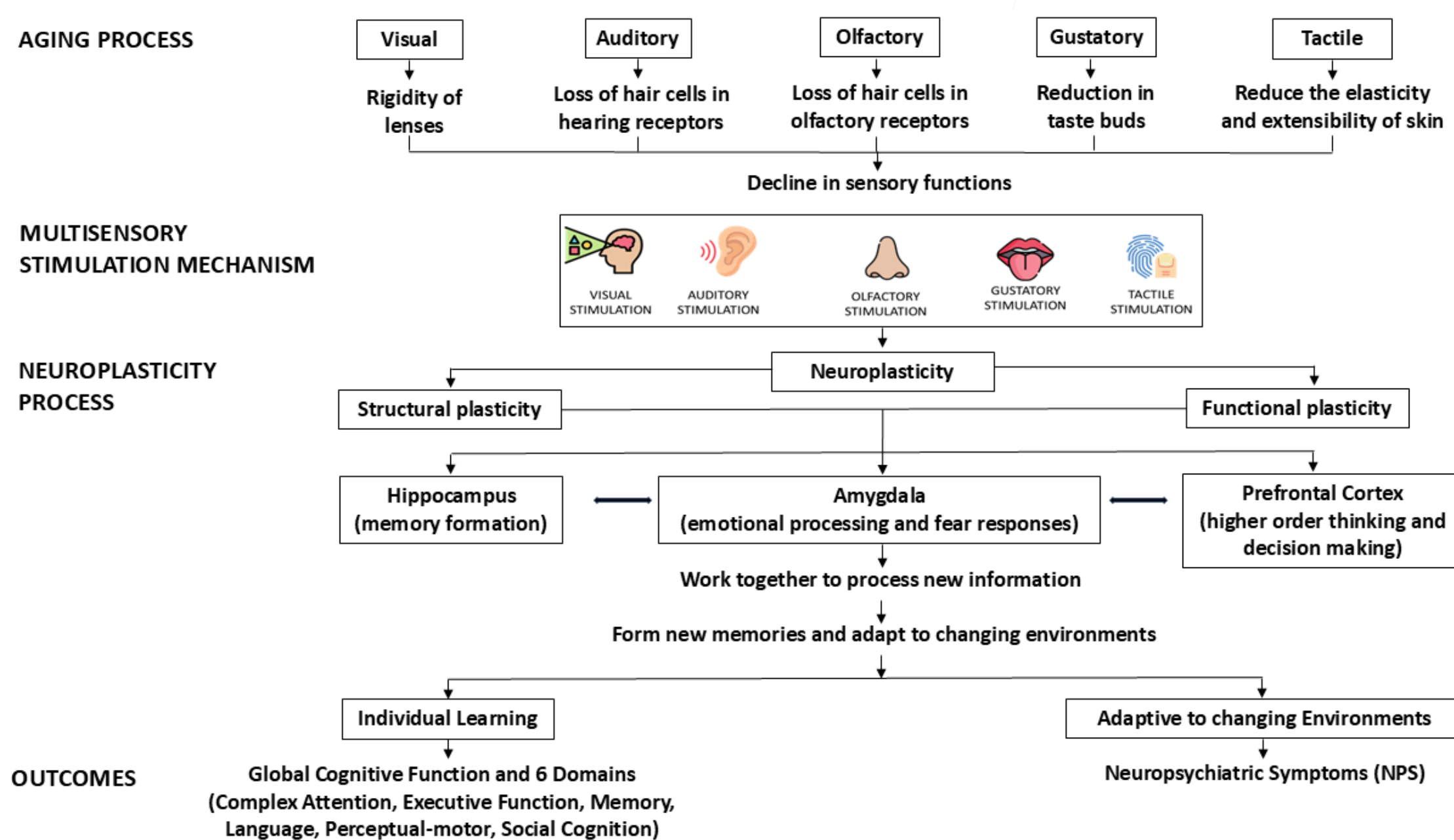
Background

Multisensory stimulation as a non-pharmacology intervention gained increasing attention as a complementary therapeutic option. Multisensory stimulation, known as Snoezelen therapy, engages at least two sensory systems, such as the visual, olfactory, auditory, gustatory, and tactile systems. However, its effectiveness in mitigating neuropsychiatric symptoms (NPSs) in older adults with dementia remains unclear. This meta-analysis evaluated the efficacy of multisensory stimulation in ameliorating NPSs in older adults with dementia.

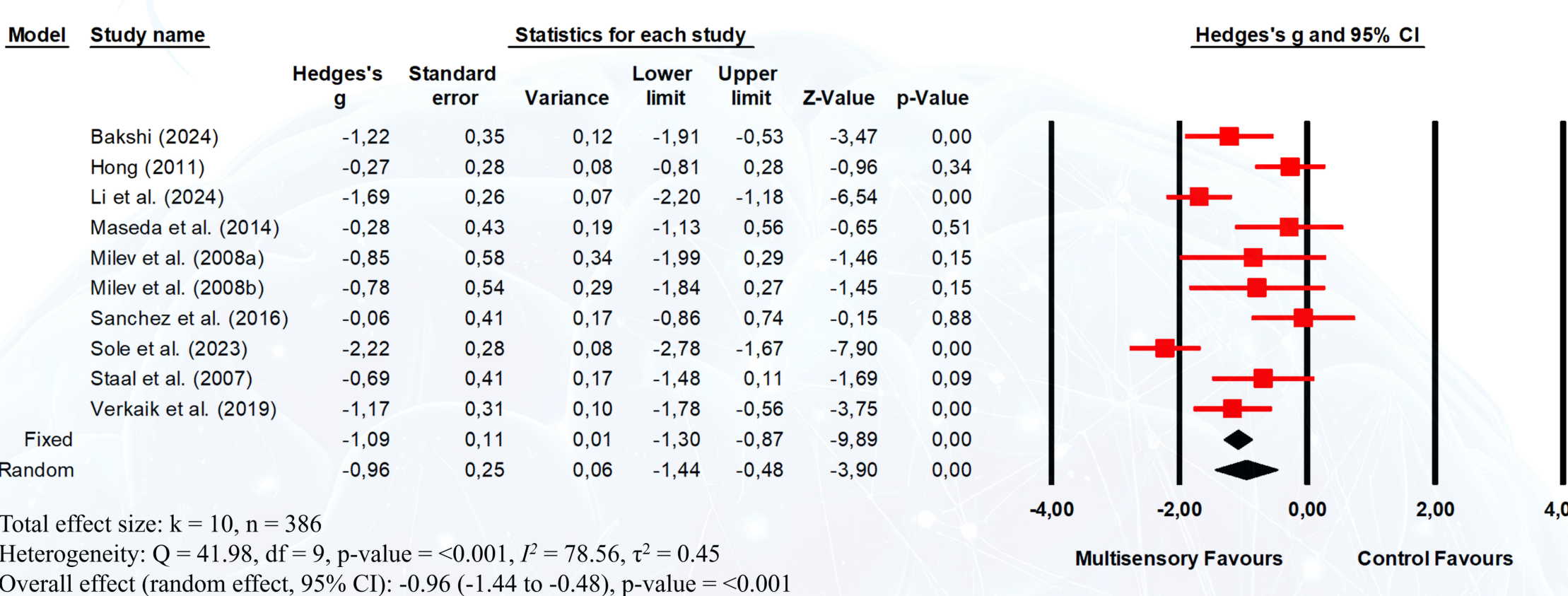
Methods

- Databases searched: CINAHL, Cochrane, Embase, ProQuest, PsycINFO, PubMed, Scopus, Web of Science.
- Older adults with dementia aged ≥ 65 years were included.
- Hedges' g (g) with a random-effect model was calculated as the pooled effect size measure.
- Heterogeneity was assessed using Q -statistic, I^2 , and τ^2 statistics.
- Publication bias evaluated (Begg & Mazumdar, Egger's test); analysis performed with CMA v2.

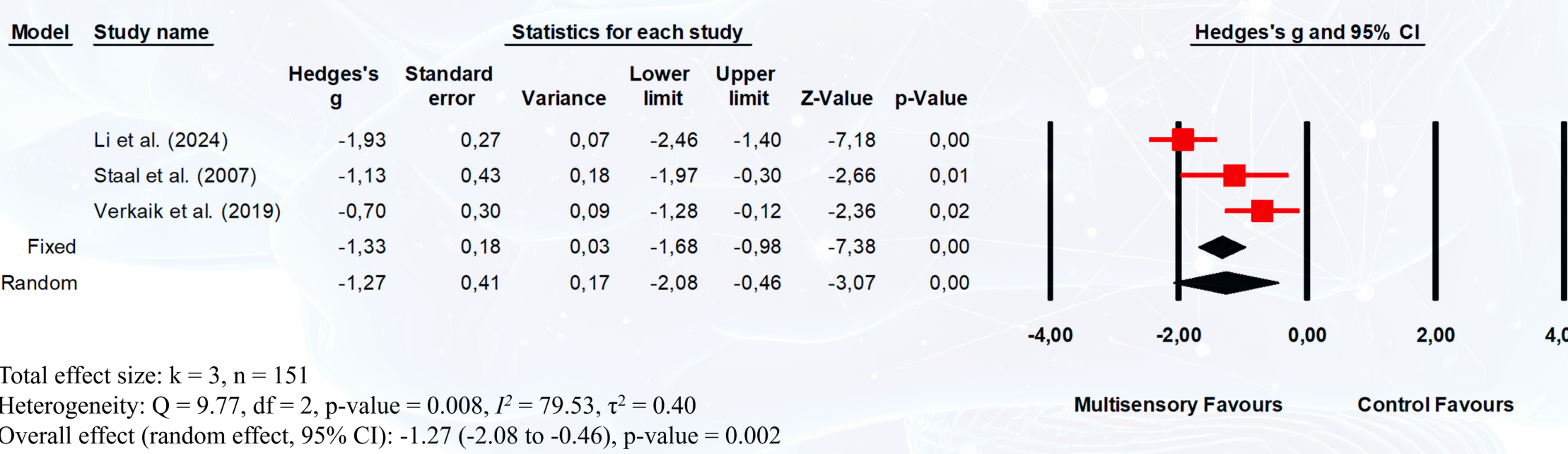
MULTISENSORY MECHANISM



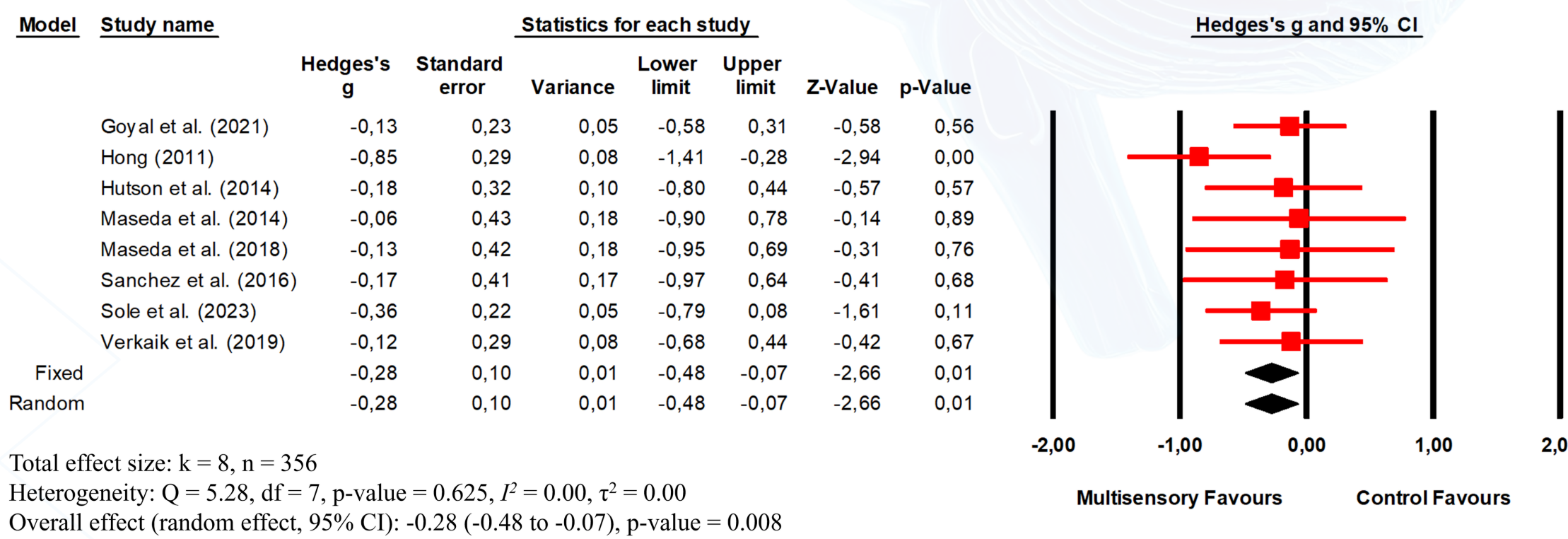
Agitation



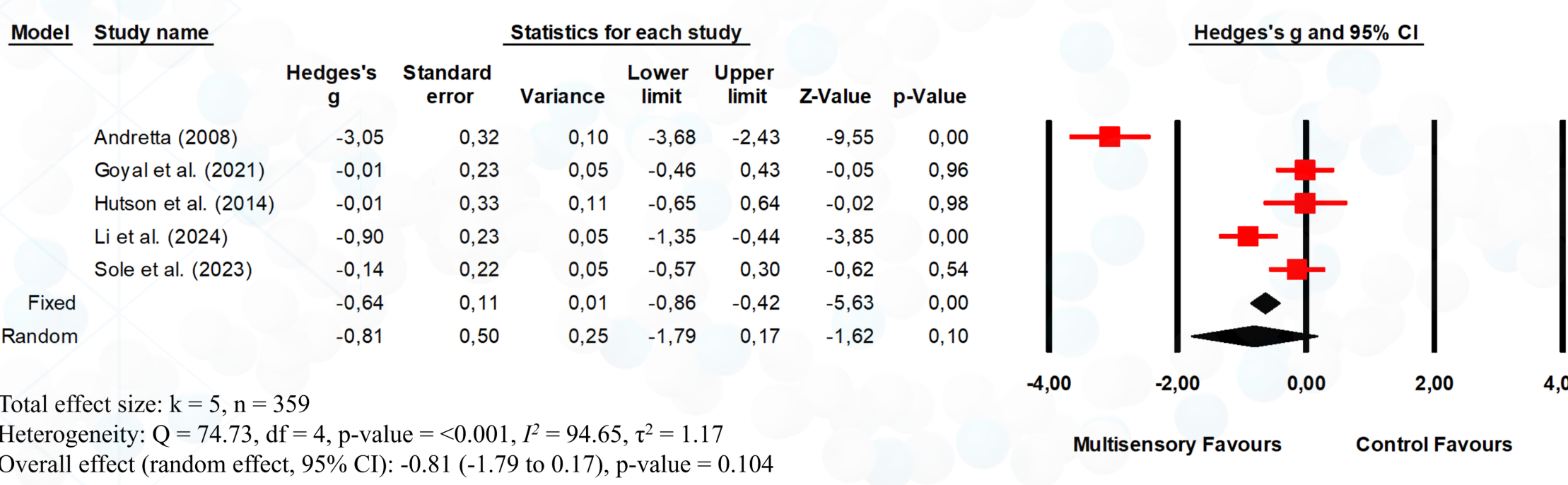
Apathy



Depression



Anxiety



Results

A total of 14 effect sizes from 13 studies were included. Multisensory stimulation had a significant effect with $p\text{-value} < 0.05$ in reducing agitation ($g = -0.96$; 95 % CI = -1.44 to -0.48 ; $p < 0.001$), apathy ($g = -1.27$; 95 % CI = -2.08 to -0.46 ; $p = 0.002$), depression ($g = -0.28$; 95 % CI = -0.48 to -0.07 ; $p = 0.008$), and anxiety ($g = -0.81$; 95 % CI = -1.79 to 0.17 ; $p = 0.104$). No publication bias was detected.

Conclusion

Multisensory stimulation shows promise as a non-pharmacological intervention for older adults with dementia. It may effectively mitigate NPSs. Furthermore, it can reduce caregiver burden. Healthcare professionals, particularly nurses, can incorporate multisensory stimulation into clinical practice as an alternative intervention.

References

Octary, T., Fajarini, M., Arifin, H., Chen, R., Sung, C.-M., Chang, L.-F., Wang, C.-H., Banda, K. J., & Chou, K.-R. (2025). Multisensory stimulation reduces neuropsychiatric symptoms and enhances cognitive function in older adults with dementia: A meta-analysis of randomized controlled trials. The Journal of Prevention of Alzheimer's Disease, 100091. <https://doi.org/https://doi.org/10.1016/j.tpad.2025.100091>

