

February 2025

NeuroBITE

NEWSLETTER

Welcome to the February 2025 edition of the NeuroBITE newsletter!

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The first newsletter of 2025 contains a number of systematic reviews, collating results for music, exercise, cognitive, and communication interventions across a range of populations.

We also highlight an Australian randomised controlled trial that scored 8/10 on the PEDro-P. While the feasibility study showed that a telehealth-delivered CBT intervention group and a control group both resulted in reduced symptoms of anxiety, it demonstrates the importance of a high standard of methodological rigour in drawing accurate conclusions, even at the feasibility stage. It is also open access - please do click through to check it out.

Happy reading!

Mild Cognitive Impairment

Jordan, C., Lawlor, B., & Loughrey, D. (2022). A systematic review of music interventions for the cognitive and behavioural symptoms of mild cognitive impairment (non-dementia). *Journal of Psychiatric Research*, 151, 382-390. **OPEN ACCESS**

Pacas Fronza, G., Mitchell, L. K., Pachana, N. A., Byrne, G. J., Liddle, J., Yang, J., Brooks, D., Au, T., Pourzinal, D., Worthy, P., Comans, T., Beattie, E., Bennett, S., Russell, T., & Dissanayaka, N. N. (2024). Telehealth cognitive behavior therapy to reduce anxiety in people living with cognitive impairment: A randomized feasibility pilot study. *Clinical Gerontologist*. **OPEN ACCESS**

PEDro-P Score: 8/10

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Xue, D., Li, P. W., Yu, D. S., & Lin, R. S. (2023). Combined exercise and cognitive interventions for adults with mild cognitive impairment and dementia: A systematic review and network meta-analysis. *International Journal of Nursing Studies*, 147, 1-15.

Stroke

Zhang, W., & Liao, Y. (2024). The effects of symbolic gestural training on enhancing recovery of spoken naming in people with aphasia: A systematic review and meta-analysis. *International Journal of Speech-Language Pathology*.

Traumatic Brain Injury

Alashram, A. R. (2024). Effectiveness of aerobic exercise on cognition in individuals with traumatic brain injury: A systematic review. *Applied Neuropsychology: Adult*.

Beaulieu, C. L., Persel, C., Shannon, T., Whyte, J., Hurlburt, D., Huffine, N., & Bogner, J. (2023). Examining the evidence from single-case experimental designs to treat challenging behaviors following moderate to severe traumatic brain injury. *The Journal of Head Trauma Rehabilitation*, 38(2), E126-E135.

Salazar-Frias, D., Rodriguez-Bailon, M., Ricchetti, G., Navarro-Egido, A., de Los Santos, M., & Funes, M. J. (2024). Training to deal with distractions and conflicting situations in activities of daily living after traumatic brain injury (TBI): Preliminary evidence from a single-case experimental design study. *Neuropsychological Rehabilitation*, 1-36.

RoBiNT Score: 16/30

Sood, N. T., Godfrey, C., Krasts, D., Morrison, E., Chavez Arana, C., Hearps, S. J., Anderson, V., & Catroppa, C. (2024). Rehabilitation of Executive Function in Pediatric Traumatic Brain Injury (REPeaT): Outcomes of a pilot randomized controlled trial. *Neuropsychology*.

PEdro-P Score: 7/10



Alzheimer's Disease

Rodriguez, M. J., Kercher, V. M., Jordan, E. J., Savoy, A., Hill, J. R., Werner, N., Owora, A., Castelluccio, P., Boustani, M. A., & Holden, R. J. (2023). Technology caregiver intervention for Alzheimer's disease (I-CARE): Feasibility and preliminary efficacy of Brain CareNotes. *Journal of the American Geriatrics Society*, 71(12), 3836-3847. **OPEN ACCESS**

PEDro-P Score: 7/10

Swinnen, N., de Bruin, E. D., Guimaraes, V., Dumoulin, C., De Jong, J., Akkerman, R., Vandenbulcke, M., Stubbs, B., & Vancampfort, D. (2024). The feasibility of a stepping exergame prototype for older adults with major neurocognitive disorder residing in a long-term care facility: A mixed methods pilot study. *Disability and Rehabilitation*, 46(5), 896-910.

PEDro-P Score: 6/10



Ratings

NeuroBITE also evaluates the methodological rigor (methodological quality) of primary studies that use a control condition to demonstrate the efficacy of a treatment. The primary studies involved are randomised controlled trials (RCTs), non-RCTs, and single-case experimental designs (SCEDs). Two method quality rating scales are used: the PEDro-P Scale to rate RCTs and nRCTs, and the Risk of Bias in N-of-1 Trials (RoBiNT) Scale to rate SCEDs. For more information, and to learn how to critically appraise studies using these scales, please visit our [Rating Information](#) and [Training](#) pages.

PEDro-P Scale

The PEDro-P Scale consists of 11 items (10 of which contribute to the total score). Often, complex (behavioural) intervention studies can only score a maximum of 8/10 because it is difficult to meet criteria on the two PEDro items for blinding participants and blinding therapists given the nature of behavioural interventions. For score interpretation, by convention, a score of 6 or more on the PEDro Scale is considered to reflect 'moderate' or 'good' methodological quality.

RoBiNT Scale

The RoBiNT Scale consists of two subscales: the Internal Validity (IV) Subscale (7 items) and the External Validity and Interpretation (EVI) Subscale (8 items). Items are rated on a 3-point scale (0-2), resulting in a maximum score of 14 for the IV Subscale, 16 for the EVI Subscale, and 30 for the total score. Score interpretation for the IV subscale, which reflects the methodological rigor (methodological quality) of a study, uses a validated algorithm, which is described in a supplement (Perdices, Tate & Rosenkoetter, 2019) to the RoBiNT Manual. The algorithm classifies the weighted scores of the seven IV Subscale items into six categories of methodological rigor, ranging from 'very high' to 'very low'.

