

Effectiveness of Cognitive Rehabilitation Following Acquired Brain Injury: A Meta-Analytic Re-Examination of Cicerone et al.'s (2000, 2005) Systematic Reviews

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The present study provides a meta-analysis of cognitive rehabilitation literature ($K = 115$, $N = 2,014$) that was originally reviewed by K. D. Cicerone et al. (2000, 2005) for the purpose of providing evidence-based practice guidelines for persons with acquired brain injury. The analysis yielded a small treatment effect size ($ES = .30$, d statistic) directly attributable to cognitive rehabilitation. A larger treatment effect ($ES = .71$) was found for single-group pretest to posttest outcomes; however, modest improvement was observed for nontreatment control groups as well ($ES = .41$). Correction for this effect, which was not attributable to cognitive treatments, resulted in the small, but significant, overall estimate. Treatment effects were moderated by cognitive domain treated, time postinjury, type of brain injury, and age. The meta-analysis revealed sufficient evidence for the effectiveness of attention training after traumatic brain injury and of language and visuospatial training for aphasia and neglect syndromes after stroke. Results provide important quantitative documentation of effective treatments, complementing recent systematic reviews. Findings also highlight gaps in the scientific evidence supporting cognitive rehabilitation, thereby indicating future research directions.

Keywords: cognitive rehabilitation, neuropsychological rehabilitation, TBI treatment, stroke treatment, meta-analysis