

may be useful not only in clinical trials but also in other clinical and research contexts. Adopting a set of universal reporting standards for clinical trials would yield a multifaceted benefit to the field of neuropsychology, and ultimately serve to strengthen and align the empirical evidence-base by creating uniformity within the literature and increasing methodological transparency. Researchers, clinicians, educators and practitioners, as well as journal editors, reviewers, and ultimately, health care consumers alike have much to gain from implementation of such standards.

Correspondence: *Justin B. Miller, 888 West Bonnerville Ave, Las Vegas, CA 89106. E-mail: justin.b.miller@gmail.com*

Cognitive Intervention/Rehabilitation

D. DAVID, D. SHEN, M. ERSEK, J. AMORY & M. CHERRIER. "Again?" Impact of Repeat Test Administration: Practice, Fatigue, and Examiner Effects.

Objective: Neuropsychological tests when administered as part of a comprehensive battery or when repeated are impacted by both participant and examiner factors. These may include demand characteristics of the testing environment, examiner-patient interactions, as well as patient motivation, fatigue, vigilance, and effort. This study examined performance of healthy middle- and older-aged adults given the same battery of cognitive tests three times over a period of one day as part of a study examining medication effects.

Participants and Methods: Seventy-one participants, 35 in the middle-age group (mean age 48.9 yrs) and 36 in the older-age group (mean age 74.4 yrs) participated in this study. The neurocognitive tests measured declarative memory, working memory, and attention. The battery of tests lasted 60 minutes and was given in the morning, after lunch, and again in the afternoon.

Results: Participants demonstrated a decreased performance from baseline on the declarative memory task (Hopkin's Verbal Learning Test total and delayed recall) and one attention task (Digit Symbol Coding) ($P < .05$). In addition, participants demonstrated an improvement from baseline on a working memory task (Letter-Number Sequencing) and one attention task (d2 Test of Attention) ($P < .05$). Results suggest that over the course of one day, participants may demonstrate both declines on some tasks and improvement on other tasks.

Conclusions: It is possible that declines may be attributable to fatigue during some tasks, in contrast to improvement in other tasks secondary to practice effects. Nonetheless, aspects of demand characteristics of the testing environment may also have influenced results. These findings suggest that there are a myriad of factors that can impact the performance of a patient across time, and the pattern of change can include both improvement and decline. Clinicians should consider that both factors can be present within a single battery of tests given over a period of time.

Correspondence: *Diana David, University of Washington, Box 358280, MD-B141, Arnold Building, 1100 N Fairview Ave, Seattle, WA 98109. E-mail: ddavid@zagmail.gonzaga.edu*

R. O'NEIL, R. SKEEL & K. USTINOVA. Cognitive Ability Predicts Motor Learning on a Virtual Reality Game in Patients with TBI.

Objective: Virtual reality games and simulations have been utilized successfully for motor rehabilitation of individuals with traumatic brain injury (TBI). Little is known, however, how TBI-related cognitive decline affects learning of motor tasks in virtual environments. To fill this gap, we examined learning within a virtual reality game involving various reaching motions.

Participants and Methods: Participants included 14 patients with TBI and 15 healthy individuals with different cognitive abilities. All participants practiced ten 90-second gaming trials to assess various aspects of motor learning. Cognitive abilities were assessed with a battery of

tests including measures of memory, executive functioning, and visuospatial ability.

Results: Overall, participants with TBI showed both reduced performance and a slower learning rate in the virtual reality game compared to healthy individuals. Numerous correlations between overall motor performance and several of the cognitive ability domains were revealed for both the patient and control groups, with the best predictor of motor performance being overall cognitive ability; both visual memory and visuospatial abilities were also significant predictors of performance in both the early and late stages of learning for the TBI group.

Conclusions: The results provide a starting point for rehabilitation programs regarding which cognitive domains interact with motor learning and thus provide and additional focus for intervention.

Correspondence: *Rochelle O'Neil, M.A., Central Michigan University, 4075 South Isabella Road, Apartment AA 15, Mount Pleasant, MI 48858. E-mail: O'Neil1r1@cmich.edu*

A. JAK, C. HAYS, H. ORFF, D. SCHIEHSER & E. TWAMLEY. Depression Limits Post-Concussive Symptom Improvement in Veterans with a History of TBI.

Objective: In a randomized controlled trial, Cognitive Rehabilitation and Symptom Management and Rehabilitation Therapy (CogSMART), was shown to be effective in reducing post-concussive symptoms in OEF/OIF Veterans (Twamley et al., in press). We sought to evaluate CogSMART in a clinical sample of Veterans with objective neuropsychological deficits consistent with a DSM-IV diagnosis of Cognitive Disorder, NOS, a history of TBI, and multiple medical and psychiatric comorbidities.

Participants and Methods: 29 Veterans, ages 23-64, completed 10-12 weeks of CogSMART in either group (n=21) or individual (n=8) format. Assessments of post-concussive (e.g., Neurobehavioral Symptom Inventory; NSI) and depressive symptoms (e.g., Beck Depression Inventory; BDI) were administered prior to and after completion of treatment.

Results: Post-treatment depressive and post-concussive symptoms were equivalent between treatment modalities (group vs. individual) and injury severity (all ps > .14). However, Veterans endorsing only mild pre-treatment depressive symptoms (BDI < 18) had significantly greater improvements in post-concussive symptoms on the NSI following treatment than did those endorsing moderate to severe depressive symptoms (BDI > 18) ($p = .008$). Additionally, non-OEF/OIF Veterans (n=12) experienced greater reduction in NSI scores post-treatment than did OEF/OIF Veterans (n=17) ($p = .06$); there were no differences in initial level of depressive symptoms between Veteran eras ($p = .59$), but there was a trend towards greater decline in depressive symptoms during treatment for non-OEF/OIF Veterans compared to OEF/OIF Veterans ($p = .15$).

Conclusions: Consistent with the literature highlighting mood contributions in the persistence of post-concussive symptoms, these results indicate that higher levels of depression can also impede response to treatment for cognitive symptoms. Mood treatment for individuals with persistent post-concussive symptoms should be prioritized in treatment decisions for this complicated clinical group.

Correspondence: *Amy Jak, Ph.D., VA San Diego/UCSD, 3350 La Jolla Village Dr., San Diego, CA 92161. E-mail: ajak@ucsd.edu*

A. VAS, M. KEEBLER, G. RODRIGUEZ-LARRAIN, D. KRAWCZYK & S. CHAPMAN. Neurocognitive Outcomes following Reasoning Training in mild TBI.

Objective: The current study compared cognitive and functional benefits of two programs in adults with mTBI (GOS-e-7, BDI < 20). One training program, SMART, focused on complex reasoning using strategies of strategic attention, integration, and innovation. The second program (Brain Health Workshop, BHW) focused on understanding brain health through education of brain anatomy and effects of lifestyle behavior on brain health. Both group-programs were comparable in training hours, engagement in group discussions, and assignments.