Classifying Level of Neurocognitive Impairment in Individuals with Acquired Brain Injury.
This ongoing study is evaluating the usefulness of computerized neuropsychological assessment methodologies for classifying levels and types of neurocognitive impairment in individuals with acquired brain injuries (ABI). Our immediate goal is to refine methods for creating homogeneous groupings of students enrolled in low-cost, long-term ABI re-education programs. A secondary objective is to provide reference norms for use in conventional clinical neuropsychological evaluations and treatment planning. Students enrolled in the Traumatic Head Injury Program at Coastline Community College, Costa Mesa, CA, were administered a subset of the Automated Neuropsychological Assessment Metrics (ANAM V3.11a/96). Subtests included Simple Reaction Time, Mathematical Processing, Continuous Performance Task, Matching to Sample (Standard & NASA versions), and Stanford Sleep Scale. Participants completed a baseline (n = 59) and second (7–9 week delay) test session (n = 30). All participants had a medically confirmed ABI; level of cognitive function was classified as marginal, mild, or moderate, using traditional measures. Comparisons of baseline accuracy scores with normative data revealed that individuals in the lower portion of the mild and all of the moderately impaired group were significantly impaired on all ANAM tests. By the second session, accuracy scores were within normal limits for most of these individuals. However, the improvement was not clinically meaningful due to “ceiling” effects (i.e., improvement from 90 to 100%) on this measure. In contrast, efficiency scores proved to be a more sensitive predictor of group membership, correctly classifying 90% of the individuals as functionally impaired in the marginal, mild, or moderate ranges. Data were also useful when applied to individual clinical cases in classifying levels of impairment and facilitating rehabilitation planning. Two such cases are presented. Overall results support the use of computerized tests that emphasize accurate measures of cognitive efficiency for classifying level of impairment and monitoring recovery from ABI.

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Optimizing Utilization Praxis in the Rehabilitation Process.
Damage to the orbitofrontal cortex has been related to disturbances of complex social and emotional behavior. Utilization behavior (praxis) has been associated with progressive diseases of the frontal cortex such as DAT, Pick’s, and Dementia of the Frontal Type. Compulsive utilization has been documented in cases of extensive mesial frontal damage. The purpose of this paper is to describe a patient with severe neurologic and behavioral impairment secondary to anoxic encephalopathy following cardiac arrest and to present outcome data following the implementation of specific behavioral strategies geared towards maximizing automatic (utilization) behavior. Neuroradiologic findings and neuropsychological data are presented. Behavioral strategies are outlined and outcome data are provided. Significant affects were found in a pre-post design across behaviors. Implications are discussed with respect to previous reports of the orbitomedial frontal syndrome and future applications of behavioral strategies developed specifically to optimize utilization praxis in the rehabilitation process. The case also demonstrates the relative preservation of social behavior, despite marked impairment of neurocognitive abilities, which may contribute to the understanding of orbitofrontal syndromes.