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**Objective:** A systematic approach is vital for adapting neuropsychological tests developed and validated in western monocultural, educated and English-speaking populations. However, rigorous and uniform methods are often not implemented during adaptation of neuropsychological tests and cognitive screening tools across different languages and cultures. This has serious clinical implications. Our group has adapted the Addenbrooke's Cognitive Examination (ACE) III for the Bengali speaking population in India. We have taken a 'culture-specific' approach to adaptation and illustrate this by describing the process of adapting the ACE III naming sub-test, with a focus on the process of selecting culturally appropriate and psychometrically reliable items

**Participants and Methods:** Two studies were conducted in seven phases for adapting the ACE III naming test. Twenty-three items from the naming test in the English and the different Indian ACE-R versions were administered to healthy Bengali speaking literate adults to determine image agreement, naming and familiarity of the items. Eleven items were identified as outliers. We then included 16 culturally appropriate items that were semantically similar to the items in the selected ACE-R versions of which 3 were identified as outliers. The final corpus consisting of 24 items was administered to 30 patients with mild cognitive impairment, Alzheimer's disease and vascular dementia, and 60 healthy controls matched for age and education to determine which items in the corpus best discriminated

patients and the controls, and to examine their difficulty levels.

**Results:** The ACE III Bengali naming test with an internal consistency of .76 included 12 psychometrically reliable, culturally relevant high naming-high familiarity and high naming-low familiarity living and non-living items. Item difficulty ranged from .47 to .88 and had discrimination indices  $\geq .44$ .

**Conclusions:** A key question for test development/adaptation is whether to aim for culture-broad or culture-specific tests. Either way, a systematic approach to test adaption will increase the likelihood that a test is appropriate for the linguistic/cultural context in which it is intended to be used. Adaptation of neuropsychological tests based on a familiarity driven approach helps to reduce cultural bias at the content level. This coupled with appropriate item selection statistics helps to improve the validity of the adapted tests and ensure cross-cultural comparability of test scores both across and within nations.

**Categories:** Cross Cultural Neuropsychology/ Clinical Cultural Neuroscience

**Keyword 1:** cross-cultural issues

**Keyword 2:** cognitive screening

**Keyword 3:** language: second/foreign

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## 2 The Vietnamese Montreal Cognitive Assessment: An Evaluation of Construct Validity and Recommended Cut-off for Cognitive Impairment after TBI

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**Objective:** Cognitive screening tools such as the Montreal Cognitive Assessment (MoCA) play an essential role in the clinical evaluation of neuropsychological functions. Despite the extensive investigations of the MoCA in English-

speaking countries as well as emerging adaptation work in a few Asian cultures, evidence base for the utility of the Vietnamese MoCA (MoCA-V) is lacking. This has posed a huge challenge for current and future clinical practice in Vietnam, as the country continues to assume a large burden of brain-related disorders. This study examined the construct validity of the MoCA-V and identified a cut-off score for the determination of cognitive impairment in a prevalent neurological condition in Vietnam – traumatic brain injury (TBI).

**Participants and Methods:** Participants included 129 neurologically healthy individuals and 80 patients with moderate-to-severe TBI. All participants completed the MoCA-V, along with other common neurocognitive measures such as the Trail Making Test (TMT) Parts A and B, Vietnamese Verbal Fluency Test, and Digit Span.

**Results:** Pearson's correlations revealed significant, moderate correlations between performance on the MoCA-V subdomains and more comprehensive cognitive measures. Performance on the MoCA-V Attention domain was correlated with both Digit Span Forward,  $r(110) = .453, p < .001$ ] and Digit Span Backward,  $r(110) = .303, p = .001$ ; performance on the MoCA Language domain was correlated with the Vietnamese Verbal Fluency Test,  $r(107) = .334, p < .001$ ; and performance on the MoCA Executive Function domain was correlated with the TMT-B,  $r(108) = -.479, p = .022$ .

Performance on the MoCA-V was also associated with age,  $r(127) = -.659, p < .001$ , and education,  $r(127) = .769, p < .001$ , consistent with the general effects of age and education in cognitive abilities. Finally, a cut-off score of 22.5 was identified for the detection of cognitive impairment in Vietnamese people with TBI (AUC = 0.811; 95% CI = .75-.87,  $p < .001$ ).

**Conclusions:** This study provides the first evidence for the construct validity and clinical utility of the MoCA-V. Future research is necessary to cross-validate study findings among other clinical populations. Lessons learned from neuropsychological test translation and adaptation process will be discussed, particularly in the development of the administration materials and test instructions (e.g., considerations for individuals with limited formal education, influences of colonialism in the development of test stimuli).

**Categories:** Cross Cultural Neuropsychology/  
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**Keyword 1:** cognitive screening

**Keyword 2:** cross-cultural issues

**Keyword 3:** traumatic brain injury

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### 3 Validity of Visuoconstructional Assessment Methods within Healthy Elderly Greek Australians: Quantitative and Error Analysis

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**Objective:** Visuospatial skills are frequently assessed with drawing tests. Research has suggested that the use of drawing tasks in low educated groups may lack the ability to discriminate healthy individuals from clinical populations. The aims of this study were to investigate the validity of visuoconstructional tests in a sample of older Greek Australian immigrants and compare their performances to a matched sample of patients with Alzheimer's disease (AD).

**Participants and Methods:** We assessed visuoconstructional performances in a sample of 90 healthy older Greek Australians, with a primary school level of education, and compared