



ASSOCIATION BETWEEN NEUROCOGNITIVE TEST SCORES AND SCHOOL TEST PERFORMANCE; RESULTS FROM A SRI LANKAN SETTING

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Adolescents undergo rapid physical and cognitive growth soon after puberty. Cognitive abilities are essential for learning and scholastic achievement. A significant number of school children in Sri Lanka have various learning disabilities especially in reading, mathematics and nonverbal learning. This study aimed to investigate the association between the neurocognitive test scores and subject performance of early female adolescents living in Galle municipal area. A school based descriptive cross - sectional study was conducted on 218 female adolescents aged between 11 - 14 years. Cognitive functions were assessed with eight subtests of Wechsler Intelligence Tests for Children (WISC), Test of Non Verbal Intelligence (TONI) and two computer based executive function tests; Inhibition Task and Visuo- Spatial Working Memory. Term test marks obtained for mathematics, science and Sinhala language were taken from the school records to assess subject performances. Data were analyzed using SPSS statistical package. Mean Verbal comprehension index (VCI), Perceptual Reasoning Index (PRI), Working Memory Index (WMI) and Estimated Full Scale Intelligence Quota (EFSIQ) were, 77.45 (± 12.69), 69.71 (± 9.27), 96 (± 34.71) and 78.78 (± 10.21) respectively. Mathematics test score is significantly correlated with EFSIQ ($r=0.46$), VCI($r=0.43$), WMI ($r=0.38$) and Non Verbal Intelligence Test scores ($r=0.35$). The Language score is correlated with EFSIQ ($r=0.43$) and VCI ($r=0.49$), science test score correlated with EFSIQ ($r=0.49$) and VCI ($r=0.48$). In conclusion verbal comprehension index, working memory index and estimated full scale IQ are correlate best with mathematics scores. VCI and Estimated full scale IQ are correlate best with Science and Sinhala language test scores. PRI and PSI showed weak correlations with all subject performances. However executive functions test performances were weakly correlate with mathematics and sinhala subject scores and not correlate with science score. Reforming the education system by incorporating cognitive (WM) training programme at school setting would be beneficial for students to improve academic success.

Keywords: *Neurocognitive test, School test, Sri Lanka*