

Development of Japanese Playful Assessment of Neuropsychological abilities: Correlations between test scores and age in eye-hand coordination and visual perception tests, and praxis tests

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Introduction: The Japanese Academy Sensory Integration is developing a new test, tentatively called Japanese Playful Assessment of Neuropsychological abilities (JPAN). It contributes to the clinical understanding of children with irregularities in learning or behavior. This battery contains 34 test, which are categorized into 4 groups : tests of (a)eye-hand coordination and visual perception, (b)praxis, (c)equilibrium and antigavity posture ,and (d) somatosensory.

Objective: In this presentation, we will introduce 4 eye-hand coordination and visual perception tests (assessing figure-ground perception, spatial relationship , and eye-hand coordination(2 tests)), and 15 praxis tests (assessing postural praxis(2 tests), bilateral coordination(4 tests), constructional praxis(2 tests), oral praxis(2 tests), and sequential praxis(5 tests)). We also investigate the correlation between the test scores and the age in typically developing children.

Method: The subjects were 414 children living in Japan, 4 to 10 years of age. Trained Occupational Therapists administered the JPAN to each child individually. Correlation between the score and the age was evaluated using Spearman's correlation coefficient , regarding 4 visual perception tests and 15 praxis tests .

Results: Significant correlation($p < 0.01$) between the score and the age was found in all tests. The tests and correlation coefficients of each test were as follows; figure-ground perception($r = 0.58$), spatial relationship($r = 0.54$), and eye-hand co-ordination ($r = 0.49$, $r = 0.58$) (these are eye-hand coordination and visual perception tests), postural praxis ($r = 0.60$, $r = 0.59$) , bilateral coordination ($r = 0.47 \sim r = 0.74$) , constructional praxis ($r = 0.57$, $r = 0.64$) , oral praxis ($r = 0.46$, $r = 0.55$) , and sequential praxis ($r = 0.55 \sim r = 0.63$) (these are praxis tests).

Conclusion: The result indicates that JPAN can be utilized as a developmental index. We will continue gathering data of typically developing children, and compare it with the data of children with irregularities in development. We also plan to evaluate the validity and interrater reliability of the tests.