ABSTRACT

The study of Standardization of digit and spatial span tests for the elderly people in Korea

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The Digit and Spatial Span Tests have been the practical and clinically efficient testings for the short-term memory. As short-term memory usually keeps stable in normal aging process, the decrease of short-term memory could be a good predictor to find cognitive deficit of elderly people. However, the Digit and Spatial Span Tests for elderly people have not standardized in Korean setting, yet. Therefore, this study is for the normalization and the examination the reliability and the validity of the both tests.

Study I was carried out to normalize Digit and Spatial Span Test by sampling 273 healthy elderly people in community. Four groups were classified for norm by education (0-6 years and more than 7 years) and age (55-64, 65-89 years old). The means and standard deviation are used for the norm, and the percentile scores are also calculated. Among the errors—omission, addition, perseveration, substitution, and sequencing error—of the normal group in testing, additions rarely show, on the other hand, sequencing: especially serial sequencing errors more often show.

Study II examined the reliability and validity of the Digit and Spatial Span Test. Split-half reliability and coefficient of internal consistency were both high. Construct validity was also revealed significantly high. Criterion validity was examined by the comparison the mild Alzheimer’s disease patients with the healthy group by controlling education, age, and gender. While significant difference between two groups wasn’t found in Digit Span Test, patient group got significantly lower scores in Spatial Span Test. This study suggests that a
following study approach the spatial short-term memory for the early diagnosis of Alzheimer’s disease. The significant difference between normal group and patient group in qualitative errors were not found. It implies that qualitative analysis of errors may not be so efficient measurement for early diagnosis of Alzheimer’s disease.

In this study, Digit and Spatial Span Test for the elderly were normalized and the reliability and the validity were examined. Therefore the tests can be used for practice in clinical settings in Korea. This study proposes that Digit Span Test is more useful for the measurement of process and the Spatial Span Test for early diagnosis of the Alzheimer’s disease.

Limitations of this study and future direction were also discussed.

**Key words**: Short-term Memory, Alzheimer’s disease, Digit Span Test, Spatial Span Test, Corsi’s block

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