Computerized Cognitive Test Performance in Computer User and Non-User Older Adults

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Background: Because gerontological neuropsychological assessment is often a time-consuming procedure that requires many hours of interviewing, testing, scoring, and reporting, methods to simplify and still accurately detect cognitive performance in the elderly are needed. In recent years, there have been considerable interests in the application of computerized neuropsychological test to detect cognitive impairment and decline in older adults.

Objective: The aim of this study was to evaluate older adults' cognitive performance using a computerized neuropsychological battery system. In addition, we evaluated if the participants' previous knowledge of computer use had an effect on test performance.

Methods: The Central Nervous System (CNS) Vital Signs™ computerized battery was used to evaluate cognitive function on a diverse sample of older adults from Denver (N=76) and Texas (N= 67). All participants completed tests of verbal memory, stroop, shifting attention, and continuous performance test.

Results: Both Denver and Texas groups were statistically significantly different in education levels (t=2.75, DF=141, p <.007), age (t=5.36, DF=141, p<.000), and on the summary score of the computerized cognitive battery (t=-4.29, DF=132, p<.000). However, previous knowledge about computer use was not significantly associated with the ability to perform computerized cognitive tests (r=-.134, p<.123).

Conclusion: These results suggest that although the Denver and Texas groups were significantly different in age, education, and cognitive testing outcomes, previous knowledge on computer use showed no association with a better computerized cognitive test score on both groups. These findings are important because it could suggest that performance in computerized cognitive instruments is independent of previous knowledge of computer use.