

A QUICK TEST OF COGNITIVE SPEED: PATTERNS OF AGE GROUPS 15 TO 95 YEARS¹

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Summary.—A Quick Test of Cognitive Speed color, form, and color-form naming were administered to 300 normal participants (ages 15–95 years) to explore the effects of age on perceptual (single-dimension naming) and cognitive speed (dual-dimension naming). Naming time means (sec.) were consistent with previous findings. Correlations between age and naming time were low, but significant. Linear regression with age as a factor indicated time increases of 1 sec. per decade for colors and color-form combination naming and of 6 sec. per decade for form naming. Participants were divided into age cohorts, each covering a decade, and naming times were transformed to normalized *z* scores. The normalized means were similar for color, form, and color-form naming and increased by about 1 *SD* between ages 15–25 and 75–85 years. The ranges were similar across cohorts, about 2 *SD*. The findings concur with age patterns for visual-pattern comparison speed, fluid intelligence, and working memory reported by Salthouse in 2004.

In study of normal aging, there is a wide range of cognitive abilities, and variability of scores on cognitive tests of content can be further increased by cultural and linguistic factors such as education or bilingualism. These variations complicate detection of disease states which impair cognition and differentiation between cognitive declines expected with normal aging across the life span from abnormally rapid declines (Fox, Warrington, Freeborough, Hartikainen, Kennedy, Stevens, & Rossoor, 1996; Geerlings, Jonker, Bouter, Ader, & Schmand, 1999; Christensen, 2001).

Processing-speed tests can provide sensitive and objective (timed) measures of cognition such as reaction time, executive functions, and automaticity in responding (Botwinick & Thompson, 1966; Jacobson, Repperger, Goodyear, & Michel, 1986). Tests with these characteristics can differentiate cognitive decline associated with normal age groups from cognitive impairments caused by disease processes such as dementia (Nielsen, Wiig, Minthon, & Warkentin, 2004; Londos, Warkentin, & Minthon, 2005). A Quick Test of Cognitive Speed (Wiig, Nielsen, Minthon, & Warkentin, 2002) is a processing-speed test that measures perceptual (reaction + response time)

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