

Alzheimer's Quick Test Screening Criteria for West African Speakers of Krio

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Abstract

AQT¹ color, number, color-number, animal and color-animal naming tests were administered to 164 adults in West Africa, using Krio. Naming time means were similar for Krio and American speakers and West African men and women performed similarly ($p > .05$). Correlations between age, color and animal naming and education (yrs.), color-number and color-animal naming were low, but significant ($p < .05$). Color and animal naming times increased less than 0.1 sec. per year of age. Color-number and color-animal naming times decreased about 0.4 sec. per year of education. Cut-offs for screening were estimated for literate speakers of Krio for typical ($< +1SD$), slower-than-typical ($+1-2 SD$), and atypical ($> +2 SD$) naming times. AQT color-number and color-animal naming can now be administered in Krio to West-African adults, residing in Africa, Europe or the US and Canada, to identify mild cognitive impairments and dementia.

Introduction

With rapid growth in the elderly population, it is important to find behavioral measures that can differentiate cognitive decline associated with normal aging from cognitive impairments caused by disease processes such as Alzheimer's. Differentiating normal aging from cognitive decline is challenging, as normal performance varies within a broad range, in part due to the influence of hereditary or developmental factors.^{2, 3, 4} There is little information about cognitive aging among members of African societies, in spite of estimates that the African population over age 65 grew from 17.7 to 37.9 million between 1997 and 2005.⁴ This study provides normative data for a simple, objective, reliable and culture-free test of cognitive speed (AQT)¹ for West African speakers of Krio. The design is applied in nature and replicates previous research with AQT in the US, Sweden and Greece.^{1, 5, 6, 7, 8, 9}

Tests of cognitive content, such as memory and recall of information, are typically used for assessing cognitive decline associated with neurological conditions.^{10, 11, 12} Some measures of cognitive status, such as the Mini-Mental State Examination (MMSE),¹⁰ show limitations in sensitivity for differentiating normal from non-normal cognitive functioning.^{12, 13, 14, 15, 16, 17} They introduce cultural, linguistic and/or educational biases, when used outside the Western cultures for which they were developed. Thus, educated Westerners readily recall the relatively simple cognitive content in MMSE. However, many of the abilities tested by MMSE (e.g., serial subtraction, reading and writing) may not be fully developed among persons who grew up in cultures where education past Grades 4 to 6 is not generally available. It is, therefore, of importance for the aging populations of Africa to identify measures of cognitive status and decline that are quick, reliable, objective, and applicable across diverse tribes and languages, and can be administered with minimal training. These considerations prompted us to collect normative data for two AQT timed naming tasks¹ (color-number and color-animal) from a representative sample of adults in Sierra Leone, West Africa.