Cultural Equivalence in Depressive Symptoms in Older White, Black and Mexican-American


Introduction: Prevalence rates of probable depression vary across diverse racial/ethnic groups 1.5 to 32.0% (Different group means on standard inventories). It is unclear if actual differences in depression of differential item functioning (DIF) cause different depressive symptom scores across cultural groups. Measures containing DIF items may be invalid for between-group comparisons. This study focuses on the Center for Epidemiologic Studies Depression Scale (CES-D) and the potential of the CES-D items to function differentially across multi-racial and ethnic elderly groups. Two studies have investigated racial and ethnic item differences on the CES-D in older adults. Both studies found that blacks more than white endorsed two items (people are unfriendly and people dislike me).

Purpose: The purpose of this study was to examine the cultural equivalence of the CES-D items across groups of elderly whites, blacks and Mexican Americans.

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**Measure:** The 20-item version of CES-D: 16 negatively stated and 4 positively stated items (0-3). Scores of 16 or higher are typically viewed as probable depression.

**Analytic Strategy:** Used two methods to detect differential item functioning (DIF): 1) Multiple-group confirmatory factor analysis (CFA) and 2) Item response theory (IRT).

**Results:** Sample characteristics shown in Table 1, Page 792. Whites were older, had more formal education. Blacks had more ADL limitations, and Mexican Americans higher mean CES-D scores and % screening as depressed (23% vs. 16 and 14.4%).

**Item Results:**

- **Descriptive (Table 2, Page 793)**
  
  Significant mean differences in 12 items, with Mexican Americans having higher scores. Except in 2 items (15 and 19), blacks score higher (people are unfriendly and people dislike me). Mean differences include: 1) Effect – real differences in depressive symptoms and 2) Bias – differential responses in the face of equivalent true scores.

- **Differential Item Functioning (DIF)**
  
  Table 3 summarizes the 3 group comparisons: White-Mexican American group comparisons exhibited the greatest number of DIF (16 items - 11 items MA>W)) and white-black groups fewest (2 items). Nearly half of the CES-D items functioned differently for Mexican-Americans and blacks. Only 4 items (1, 2, 11, 14) showed no DIF, suggesting equivalent functioning across 3 racial-ethnic groups.

**Discussion:** 80% of the CES-D items functioned differently on at least one comparison. Blacks consistently over-endorsed the only two interpersonal relation items on the CES-D – may reflect perceptions of racial discrimination by blacks. Mexican Americans’ greater tendency to endorse depressive symptoms is consistent with previous research showing that Mexican Americans are less hesitant than whites to admit to symptoms of psychological distress. Older Mexican Americans being less hesitant to express feelings may explain why they endorse positive effect items more than the other two groups (feeling happy, enjoying life). Mexican Americans were more likely to endorse 4 of 7 items described as presenting somatic symptoms in the CES-D (5, 7, 13, 20).
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Limitations: Potential influence of historical time and cohort differences between the samples – 10-year difference in time and smaller black sample.

Conclusions: Elderly persons from different cultural backgrounds may tend to be under- or over-diagnosed as depressed. When clinicians assess depression in older Mexican Americans, they need to adjust their own concepts of depression. Future research is needed using diverse populations of elderly people with and without clinical diagnoses of depression to validate these findings. Research may lead to screening tool free of item bias.

The individual blood cell telomere attrition rate is telomere length dependent. PloS Genetics


Introduction: Age-associated telomere shortening is a well documented feature of peripheral blood cells in human population studies. A telomere is a region of repetitive DNA at the end of chromosomes, which protects the end of the chromosome from destruction. At this time, it is not known to what extent these data on telomeres can be transferred to the individual level.

Methods: Telomere length in two blood samples taken at approximately 10 year intervals from 959 individuals was investigated using real-time polymerase chain reaction (PCR). Telomere length was also measured in 13 families from a multi-generational cohort.
The individual blood cell telomere attrition rate is telomere length dependent. PloS Genetics

Results: An age-related decline in telomere length over time (r = -0.164, P<0.001, n = 959) was found. Approximately one-third of the individuals exhibited a stable or increased telomere length over a decade. The individual telomere attrition rate was inversely correlated with initial telomere length at a highly significant level (r = -0.752, P<0.001), indicating that the attrition rate was most pronounced in individuals with long telomeres at baseline. In accordance, the age-associated telomere attrition rate was more prominent in families with members displaying longer telomeres at a young age (r = -0.691, P<0.001). Abnormal blood telomere length has been reported at diagnosis of various malignancies, but in the present study there was no association between individual telomere attrition rate or prediagnostic telomere length and later tumor development.

Discussion: The collected data strongly suggest a telomere length maintenance mechanism acting in vivo, providing protection of short telomeres as previously demonstrated in vitro. Our findings might challenge the hypothesis that individual telomere length can predict possible life span or later tumor development.