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EPIDEMIOLOGY

"Taxes, death, and trouble": Role of structural socioeconomic racism on cognitive function for persons racialized as Black

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Abstract

Background: Structural racism has concentrated Americans racialized as Black in under-resourced and disinvested neighborhoods. These same Americans experience higher rates of Alzheimer's disease and related dementias (ADRD). Differences in socioeconomic opportunities structured by racism is a potential contributor to ADRD disparities. To investigate this hypothesis, we tested how life-course exposure to area-level measures of structural racism relate to late-life cognitive test performance.

Method: We computed the Black-White disparity in land ownership and value, residential and occupational segregation, and income, employment, and poverty at the county-level using US Census data from 1930-2010. We aggregated these data to the state-level then created four unidimensional measures by life-course period (Before-Birth 1930-50, Childhood 1960-70, Adulthood 1980-2000, Midlife 2010). We linked state- and life-course-period-level data with individual-level demographic and cognitive data from the US Health and Retirement Study. We included participants racialized as Black and born 1954-59 (N = 1,172). We measured cognitive performance from repeated measures of the 27-item global cognitive score from the modified Telephone Interview for Cognitive Status during 2010-18 (average follow up of 4.1 years). Mixed effects models were used to test associations of life-course-period-specific state-level structural socioeconomic racism and cognitive change. Covariates were age, gender, education, Living arrangement, and year of death.

Result: Participants racialized as Black who lived in places with higher levels of area-level structural socioeconomic racism experienced lower levels of cognition at

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baseline and at varying time points in the six-year period—compared to those in places with lower structural socioeconomic racism. The effects of the life-course-period-specific state-level structural socioeconomic racism exposure on the slope were in the expected direction but not statistically different from zero (-.02, SE 0.25, -.51, 4.7).

Conclusion: Among participants racialized as Black in the HRS born during 1954-59, effects of exposure to state-level structural racism varied according to life course period of exposure. These findings reveal the utility of examining the impact of racist U.S. policies enacted in the past and present that influence health over time. In addition to exploring the epigenetic and in utero exposures that may contribute to ADRD risk later in life.