

Neighborhoods, cognitive health, and dementia risk: Concepts, Challenges, and Directions

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Quantifying and explaining variation in life expectancy at census tract, county, and state levels in the United States

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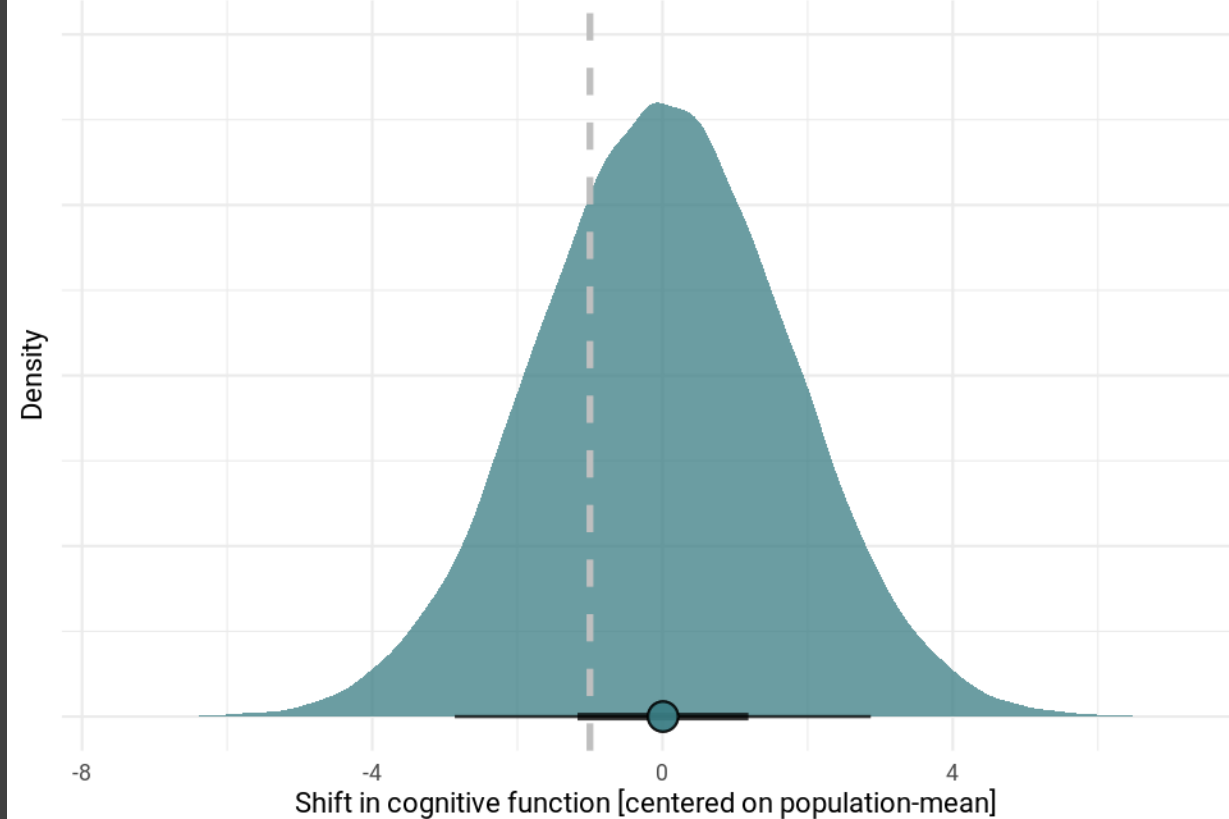
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Significance

Current knowledge on which geographic scale matters the most for inequalities in longevity in the United States is largely confined to counties, which have been the smallest unit at which national data on life expectancy were available. Making the inference that “counties make a difference” simply because “counties differ” is potentially problematic. In this systematic investigation of ascertaining the relative importance of three geographic scales: states, counties, and census tracts (CTs), **we find that more than three-fourths of the total variation in life expectancy is attributable to CTs.** This indicates that population inequalities in longevity are primarily a local phenomenon, and there is a need for greater precision and targeting of local geographies in public policy discourse.

(Simulated) tract-to-tract variation in cognitive function among older adults



American Eco-Apartheid:

Mapping longevity disparities from intersecting social and environmental harms

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Abstract: How can we measure racialized inequalities in the US in a way that is parsimonious, theory-driven, and policy-relevant? Prevailing indices of inequality are based on too many variables and are atheoretical; they cannot inform policy. In contrast, our American eco-apartheid framework builds on the theoretical and historical insights of redlining and environmental justice research, while using new data science techniques to construct an index of just 6 measures—covering political economy, state violence, and socio-environmental exposures. The index predicts at least half the life expectancy variation between most large cities' neighborhoods; and it predicts 2 to 3 times higher Covid mortality rates between top and bottom zip codes in three large cities. Our new framework advances scholarly and policy debates.

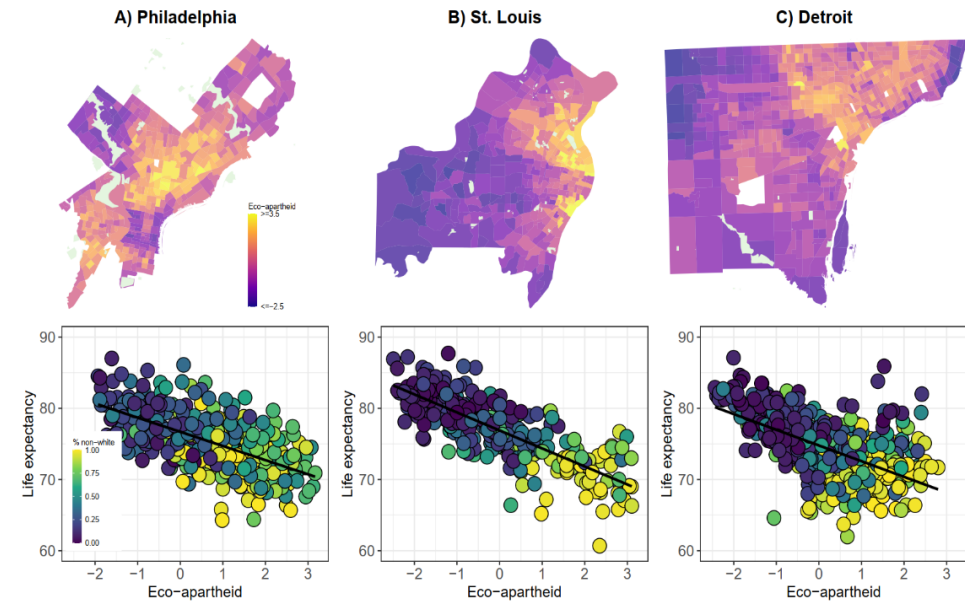
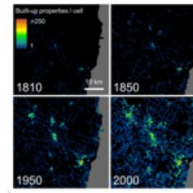


Figure 2. Maps of the tract-level eco-apartheid index for central counties in the top three metropolitan areas in terms of the negative association with period life expectancy: Philadelphia (Philadelphia County) (A), St. Louis (St. Louis City + St. Louis County) (B), and Detroit (Wayne County) (C). Scatter plots for each metropolitan area show the linear association (OLS) between tract-level eco-apartheid index and period life expectancy across the entire metropolitan area, with each tract colored by the percent non-White.

Fine-grained, spatiotemporal datasets measuring 200 years of land development in the United States

Johannes H. Uhl , Stefan Leyk, Caitlin M. McShane, Anna E. Braswell, Dylan S. Connor, and Deborah Balk



Visualizing the hidden histories of race and privilege in the built environment



A national look at the causes and impacts of urban flooding

THE FORCE REPORT

Five years. 72,677 documents. Every local police department in N.J.
We built the most comprehensive statewide database of police use
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Creative extraction: Black towns in white space

[Danielle M Purifoy](#)   and [Louise Seamster](#) [View all authors and affiliations](#)

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Historical Redlining and Contemporary Racial Disparities in Neighborhood Life Expectancy

Nick Graetz ✉, Michael Esposito ✉

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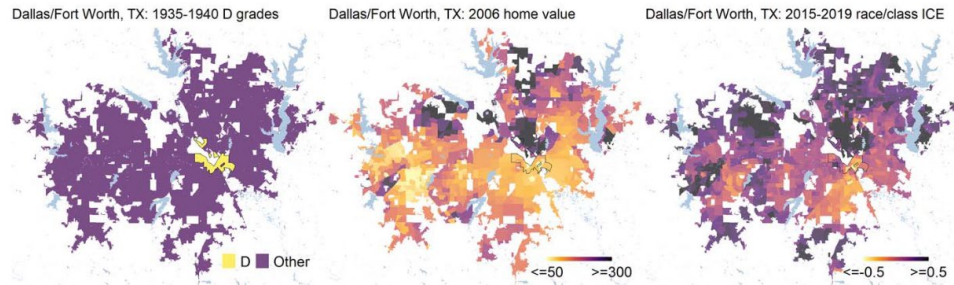


Figure 5. Maps of D-graded tracts (1935–1940), median house values in thousands (2006), and race-class ICE (2015–2019) in two types of cities: (1) overlapping D grades and contemporary race-class ICE (Cleveland, OH) and (2) non-overlapping D grades and contemporary race-class ICE (Dallas/Fort Worth, TX).

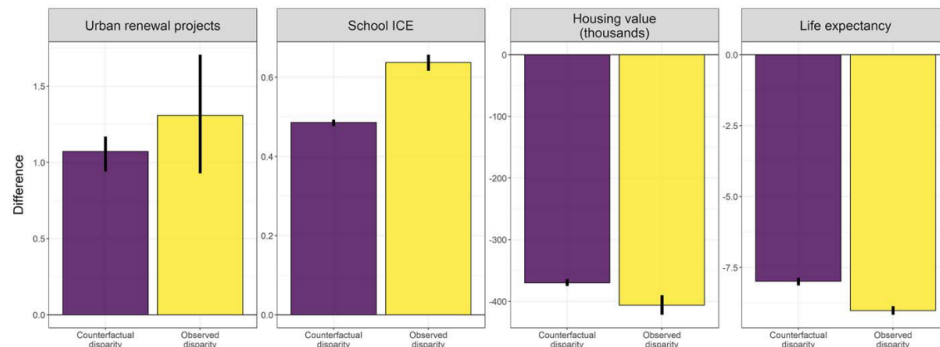


Figure 4. Results for mediation analysis R2, examining the extent to which the spatial-marking of place explains the total difference in average life expectancy between 2015 and 2019 Black working-class versus White professional-class Census-tracts.

What does “treatment” mean in a multilevel process that evolves over decades of the life course? And what counterfactual contrasts can we construct to map those ideas onto data?

$$\tau_l(t, j) = E[Y_{it}(X_{i,1:t-j-1}, 1, 0_j) - Y_{it}(X_{i,1:t-j-1}, 0, 0_j)],$$

