

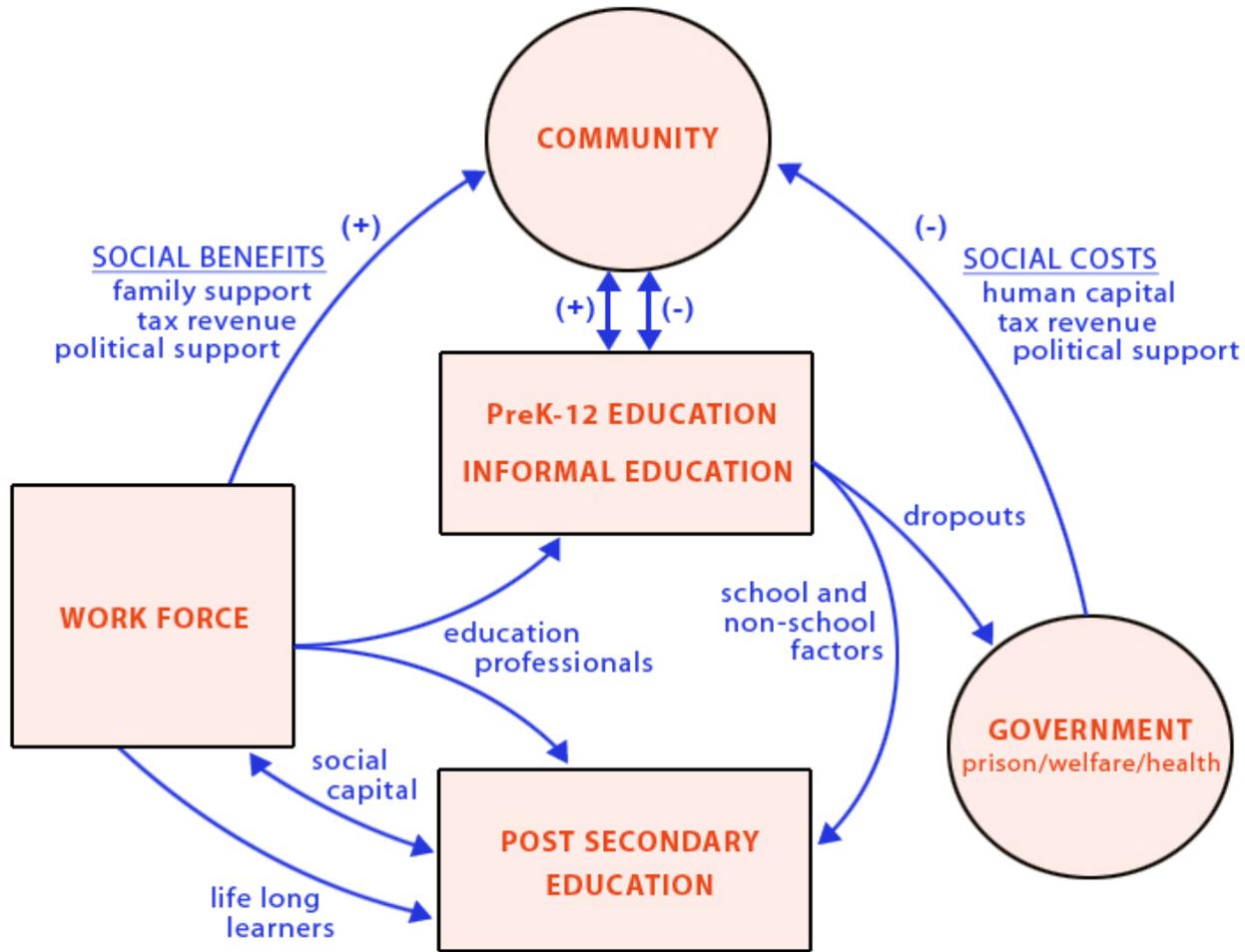


Washington
University
in St. Louis

**Who Can Help African American Children?
Regional Brain Regimes**

William F. Tate IV

April 2019



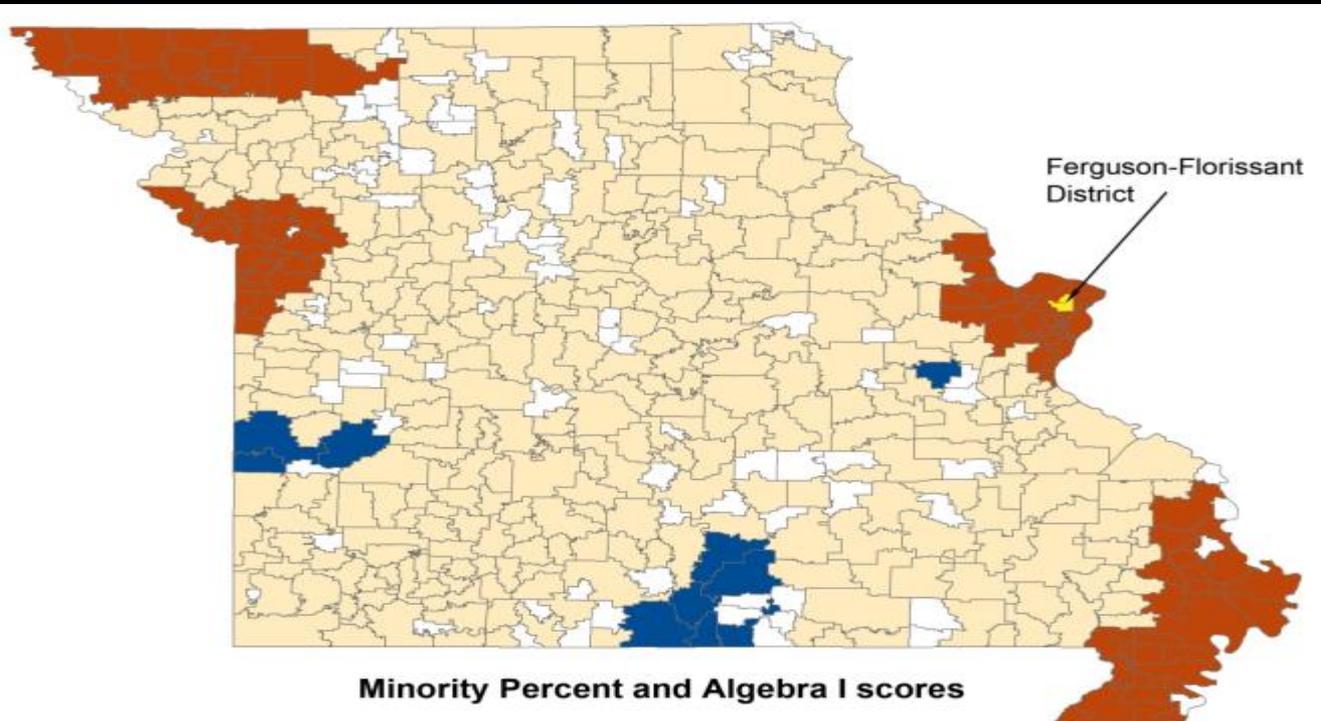
Guiding Questions

- What is the first law of geography?
- Does the first law of geography inform our understanding of the ecology of opportunity to learn and related developmental outcomes
- If so, what are the important lessons for social scientists and educational reformers?

Tobler's First Law of Geography

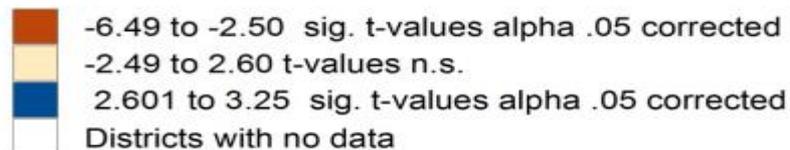
- Nearby things are more similar than distant things.

$$y_1 = B_0(u_1, v_1) + B_1(u_1, v_1)x_{i1} + B_k(u_1, v_1)x_{ik} + \varepsilon_i$$



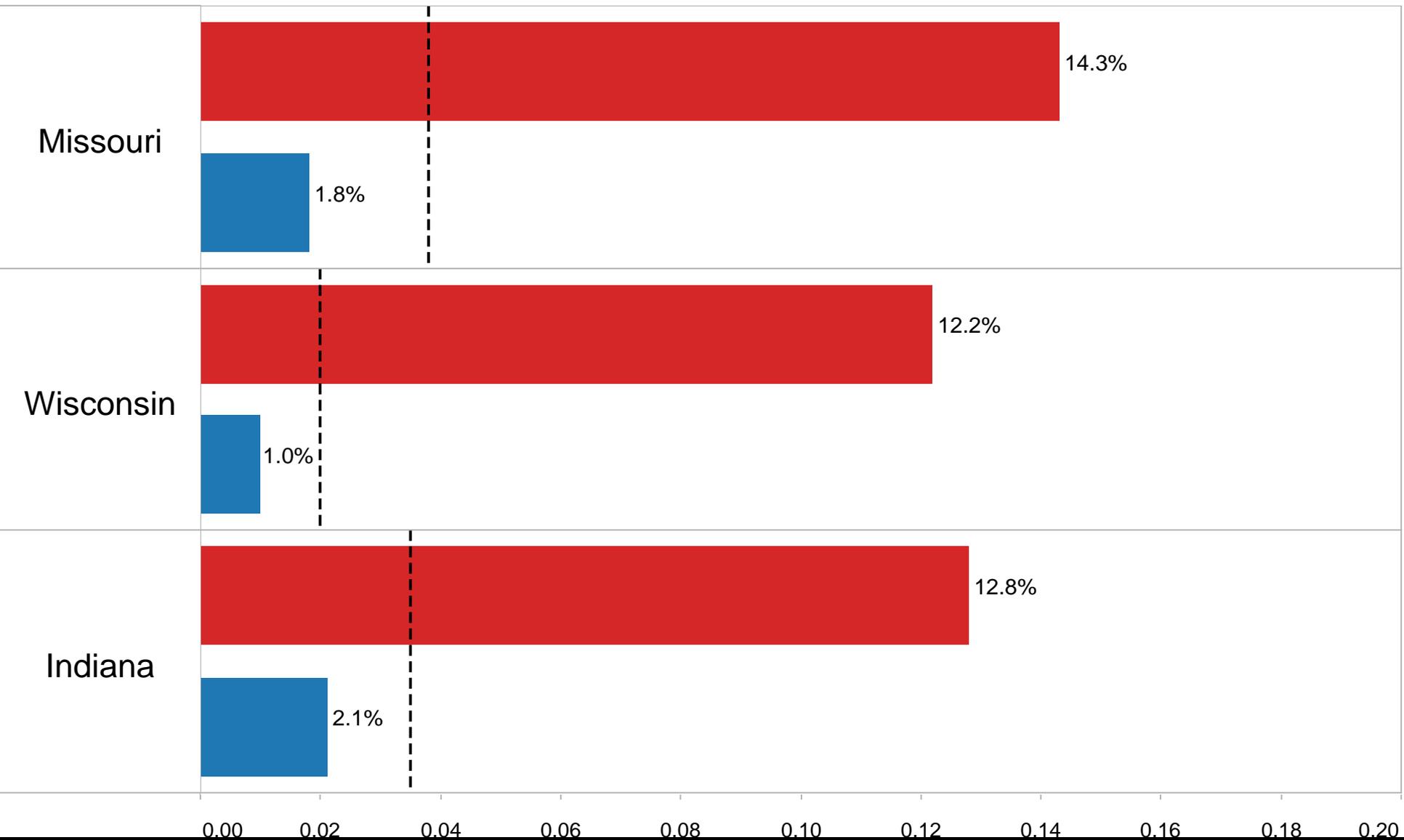
Minority Percent and Algebra I scores

GWR for Minority Percent - b coefficients t-test values



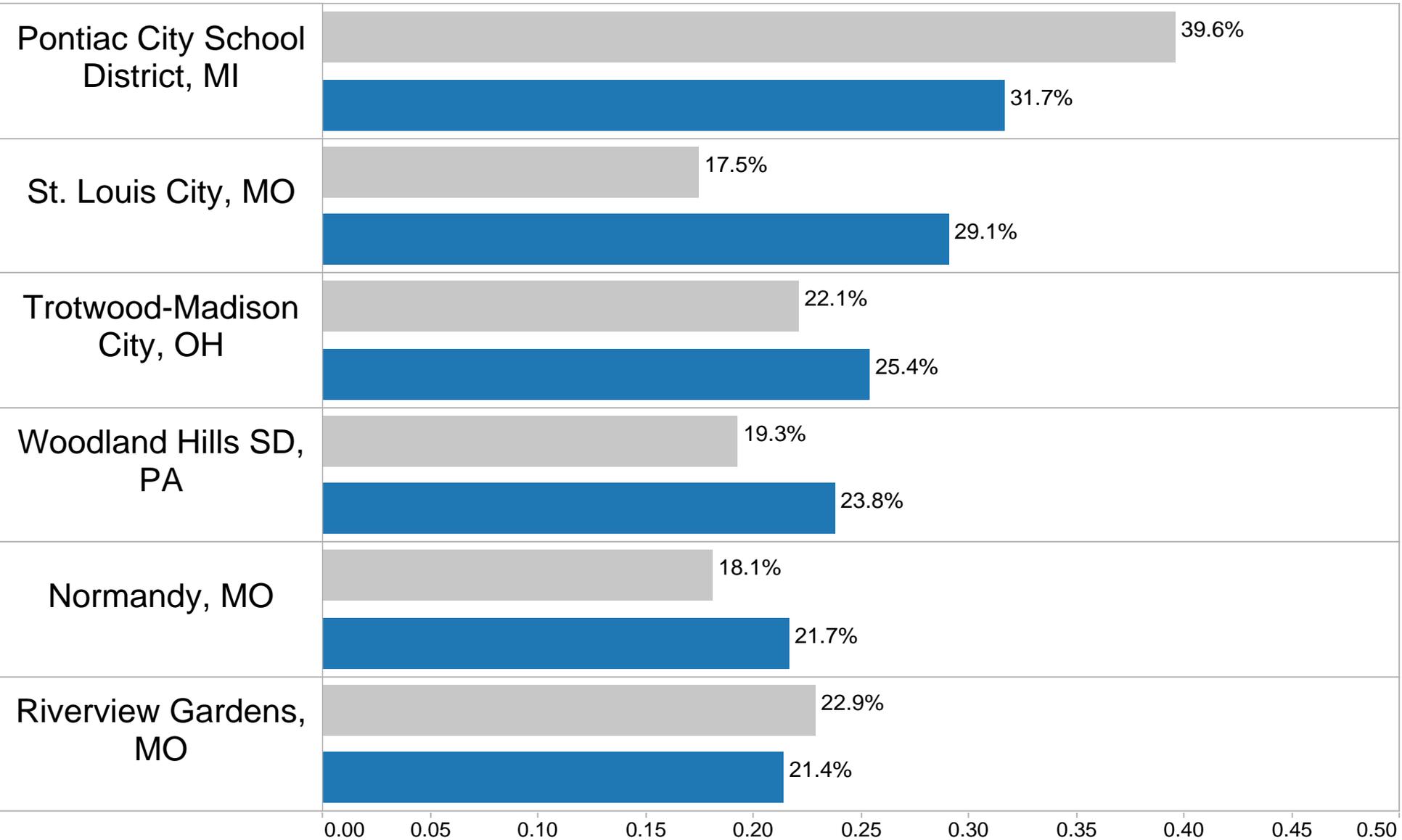
States' Elementary Suspension Rates, Top Three by the Black/White Gap, 2011-12

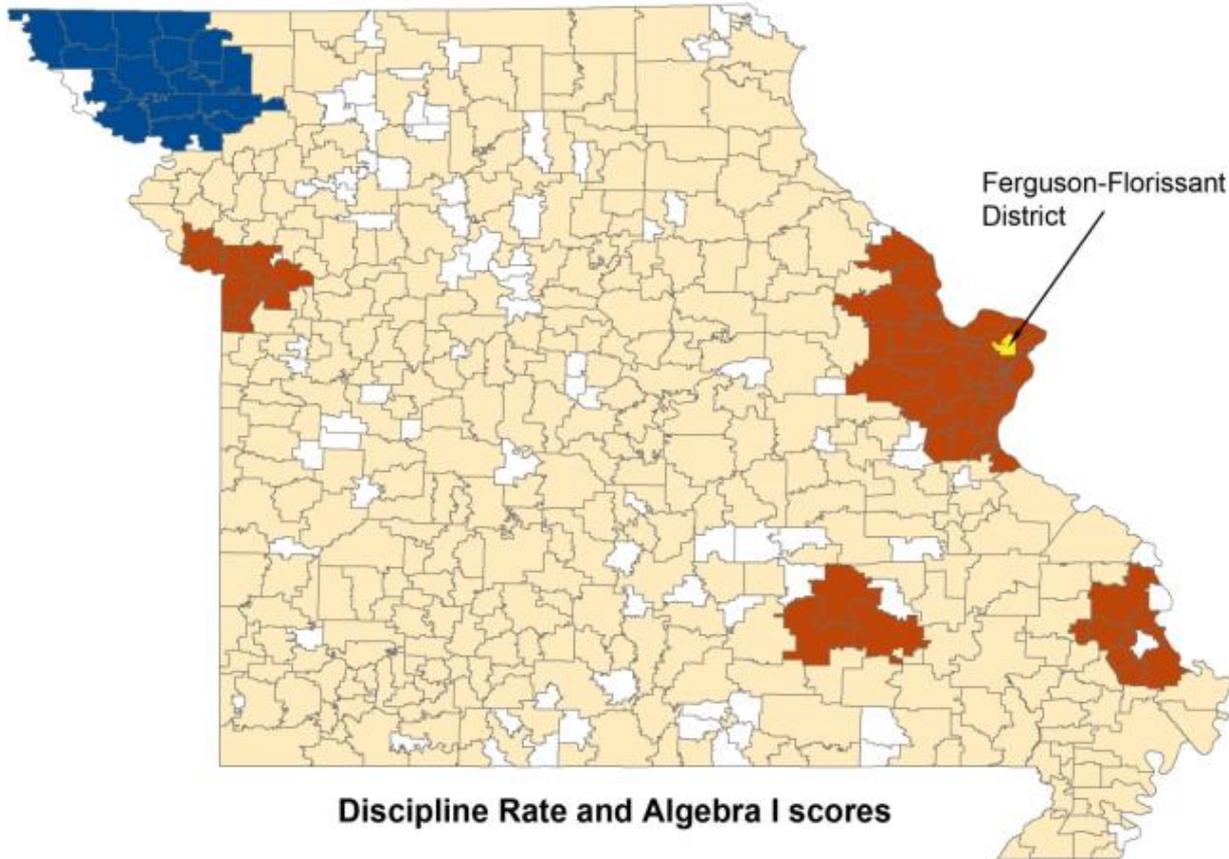
Black Students
White Students



Six Highest-Suspending Districts for ALL Elementary School Students

■ All OSS 2009-10
■ All OSS 2011-12

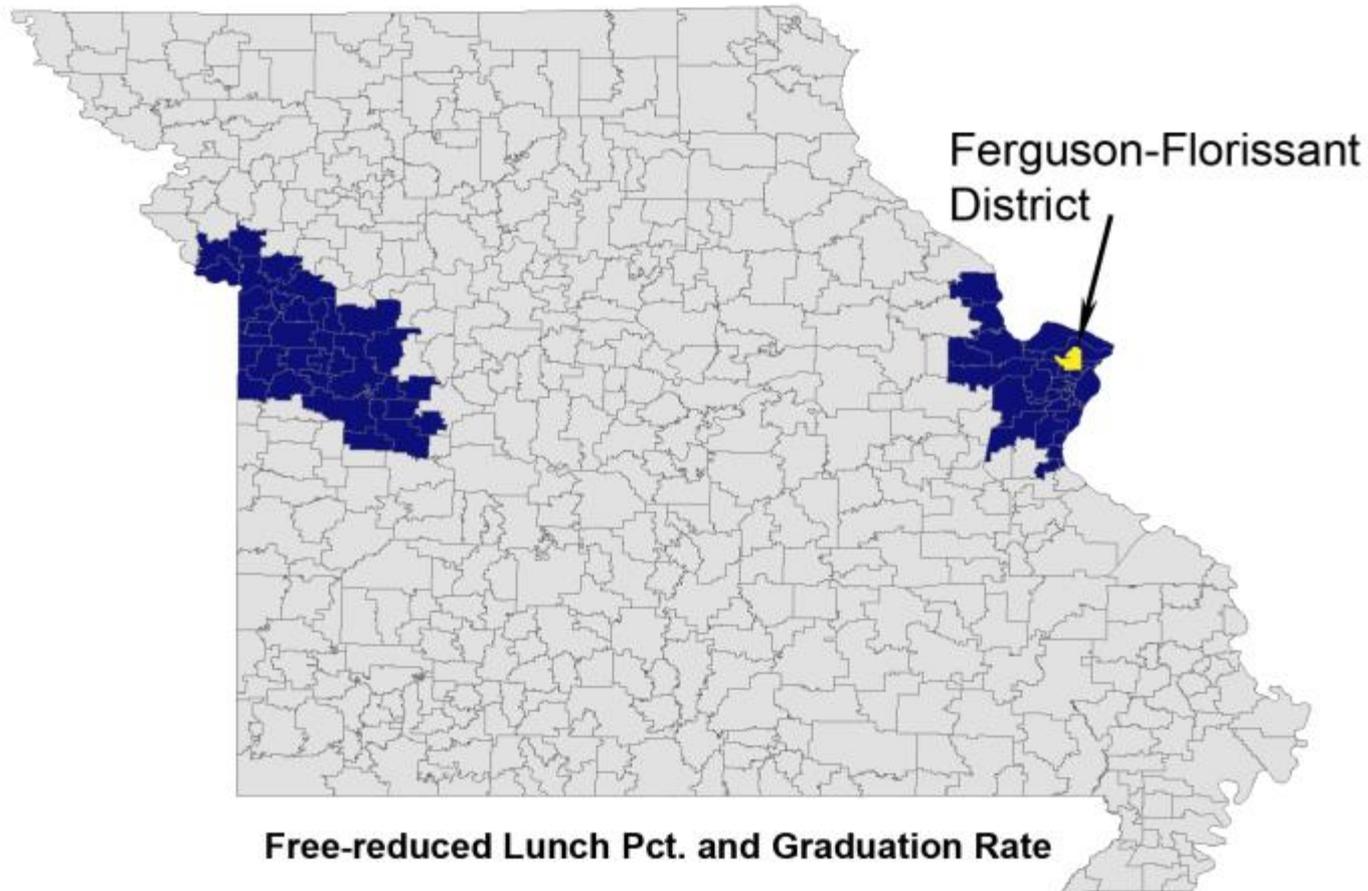




Discipline Rate and Algebra I scores

GWR for Discipline Rate - b coefficients t-test values

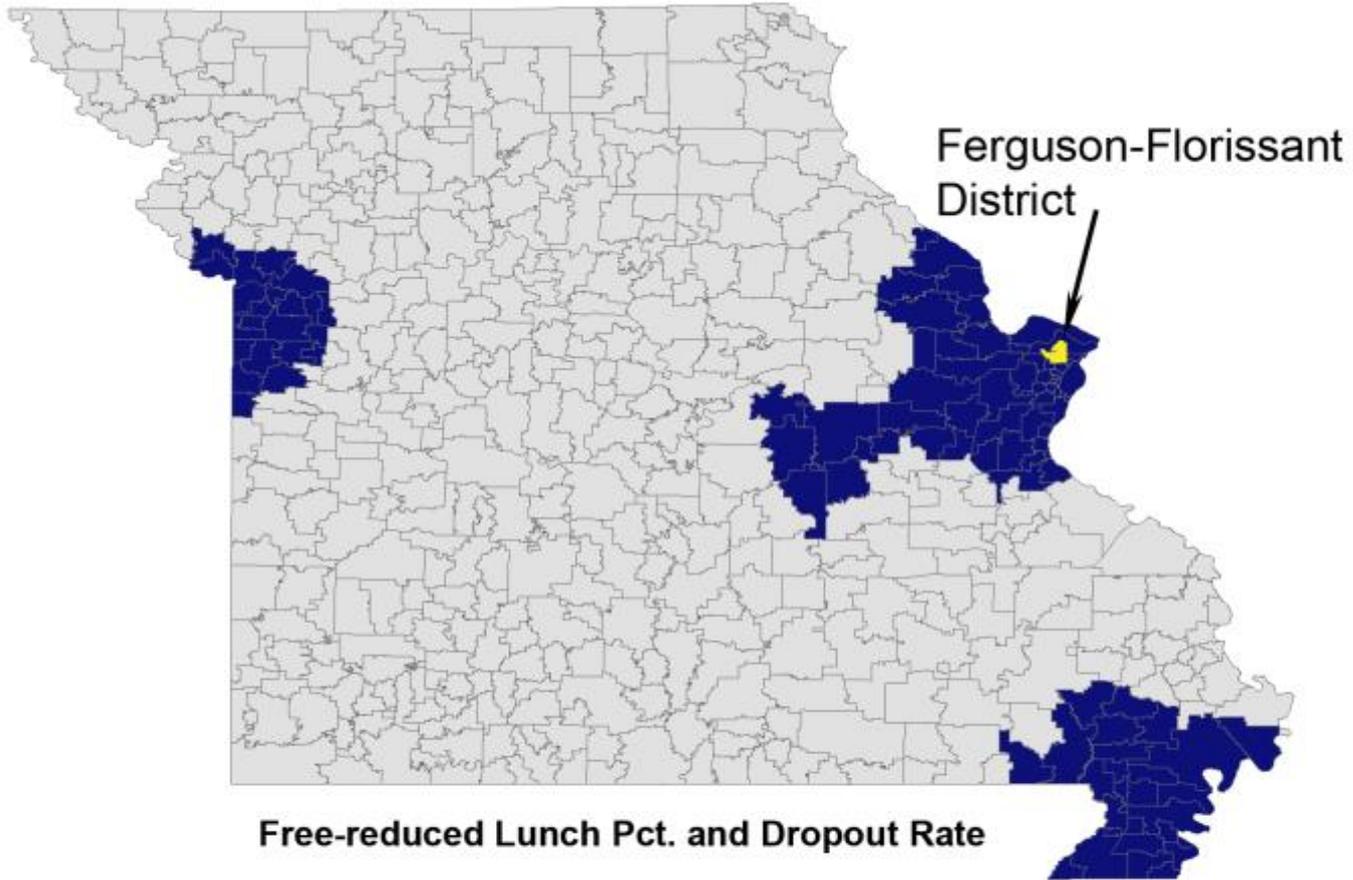
-  -6.22 to -2.63 sig. t-values alpha .05 corrected
-  -2.62 to 2.69 t-values n.s.
-  2.691 to 3.41 sig. t-values alpha .05 corrected
-  Districts with no data



Free-reduced Lunch Pct. and Graduation Rate

GWR for FRL pct and Graduation Rate: beta t-test values

- 6.710 to -2.90 sig. t-values for coefficients, alpha .05 corrected
- 2.901 to 2.308 t-values for beta coefficients n.s.



Free-reduced Lunch Pct. and Dropout Rate

GWR for FRL pct and Dropout Rate: beta t-test values

- 2.217 to 2.68 t-values for beta coefficients n.s.
- 2.681 to 10.186 sig. t-values for coefficients, alpha .05 corrected

Building a Brain Regime

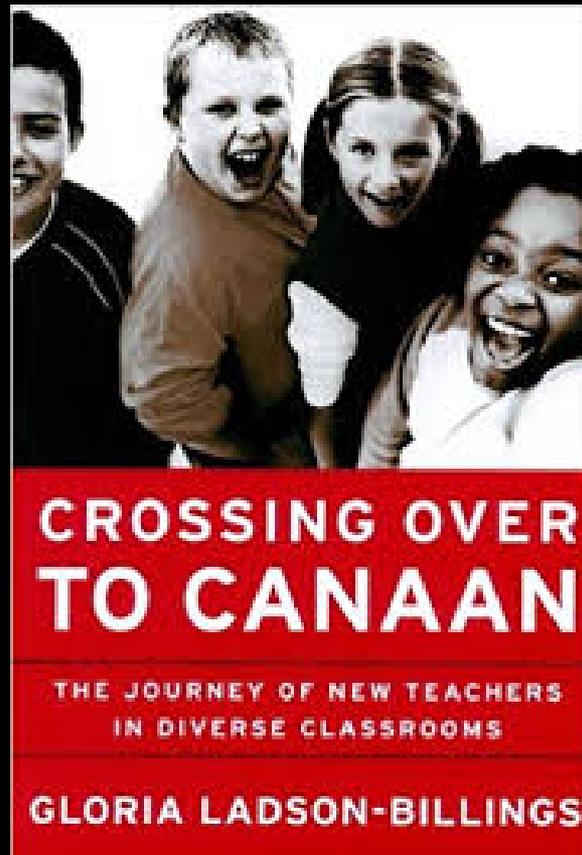
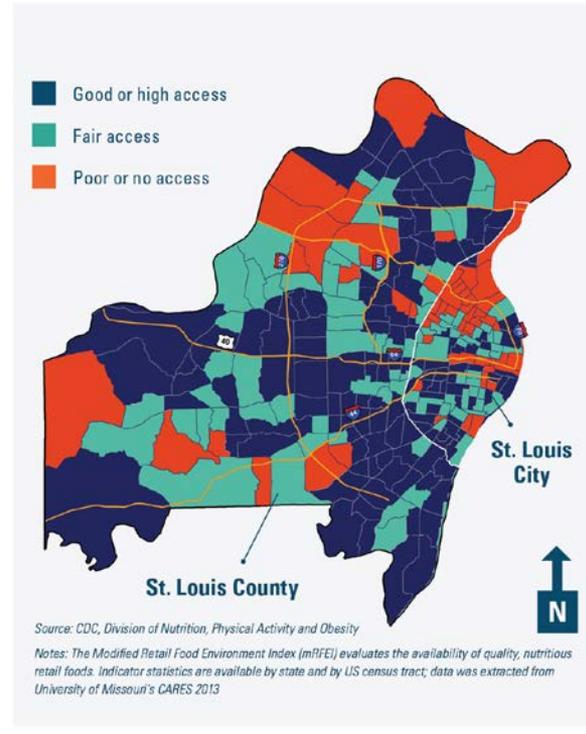


Figure 23. Availability of quality nutritious retail foods by census tract in 2011



Building a Brain Regime

Brain Regimes: Developmentally Sound Policy

- Prenatal Care at Scale
- Consumer Report on Preschool Quality
- Expansion of Health Insurance to Families
- Teacher Quality Disparities [Teacher Effects > School Effects]

Brain Regimes

- Robust PreK-8th grade Science and Mathematics
- Massive Funding Disparities in Education
- Reclaim Adult “school push outs”
- Food Deserts

“Sometimes it seem like to tell the truth today is to run the risk of being killed. But if I fall, I'll fall five feet four inches forward in the fight for freedom. I'm not backing off”

