

The Impact of Poverty and Race on Long-Term Academic and Career Outcomes in Maryland Students

Dawnsha Mushonga, Bess A. Rose, Boyoung Nam, & Angela K. Henneberger

Introduction

- Growing up in poverty has been linked to a number of negative developmental outcomes, and children who are exposed to persistent poverty have more detrimental outcomes than children exposed to transitory poverty (McLoyd, 1998).
- Recent data from the National Center for Children in Poverty (NCCP) indicate that about 15 million children—21% of all children—in the United States live in families with incomes below the federal poverty threshold (Jiang, Granja, & Koball, 2017).
- In the United States, racial/ethnic minority status is intertwined with poverty: a disproportionately high number of racial/ethnic minorities live in poverty (Reardon, 2016).
- Higher poverty schools often have limited or no access to quality educational resources, fewer qualified teachers, more overcrowded classrooms, and poorer facilities (Morgan, 2012).
- This study used administrative data to examine the relation between student-level poverty (eligibility for free and reduced meals-FARMS) and race and school-level poverty and the school's racial/ethnic composition on students' long-term educational and career outcomes.

Method

- Data were from the Maryland Longitudinal Data System (MLDS), Maryland's statewide repository for individual-level education and workforce data that are longitudinally linked across three state agencies.
- The cohort of Maryland public school students who were in 6th grade ($N = 63,427$) in 2007-08 was used for this study. Ninety-one percent of the original students in the cohort were also identified in the 9-12th grade, indicating good retention in the population over time.
- The analytic sample, consisting of cohort members with race, ethnicity, and gender data who did not transfer out of Maryland public schools ($N = 54,465$), was predominantly white (45%; 35% Black; 10% Hispanic of any race; 5% Asian; 4% other).
- Students were nested within 466 public schools in 6th grade in 2007-08 and 257 public schools in 12th grade in 2013-14.
- Student poverty duration was calculated as the proportion of time from 6th to 12th grade the student was eligible for FARMS ($M = 0.36$, $SD = 0.42$).
- School poverty was calculated as the mean poverty duration of all students in the school ($M = 0.37$, $SD = 0.22$).

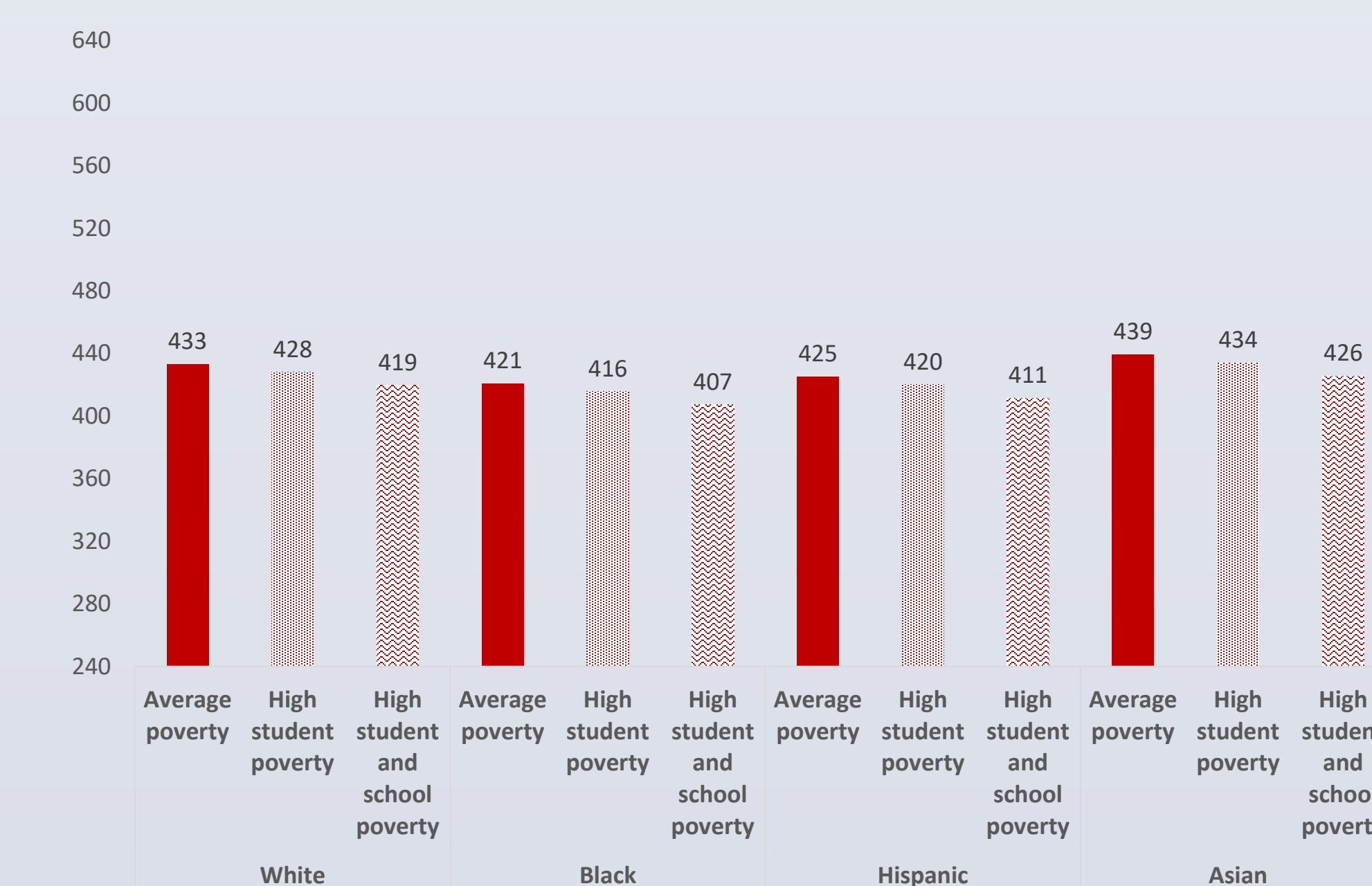
Analytic Approach

- In order to estimate the relations between student and school poverty and long-term outcomes, while accounting for the interdependence of outcomes for students attending the same schools, the study used multiple membership multilevel modeling.
- Each model included independent variables for student and school poverty, student race/ethnicity, and school racial/ethnic composition. Poverty variables were standardized ($M = 0$, $SD = 1$).

Results: Predicted Academic Outcomes

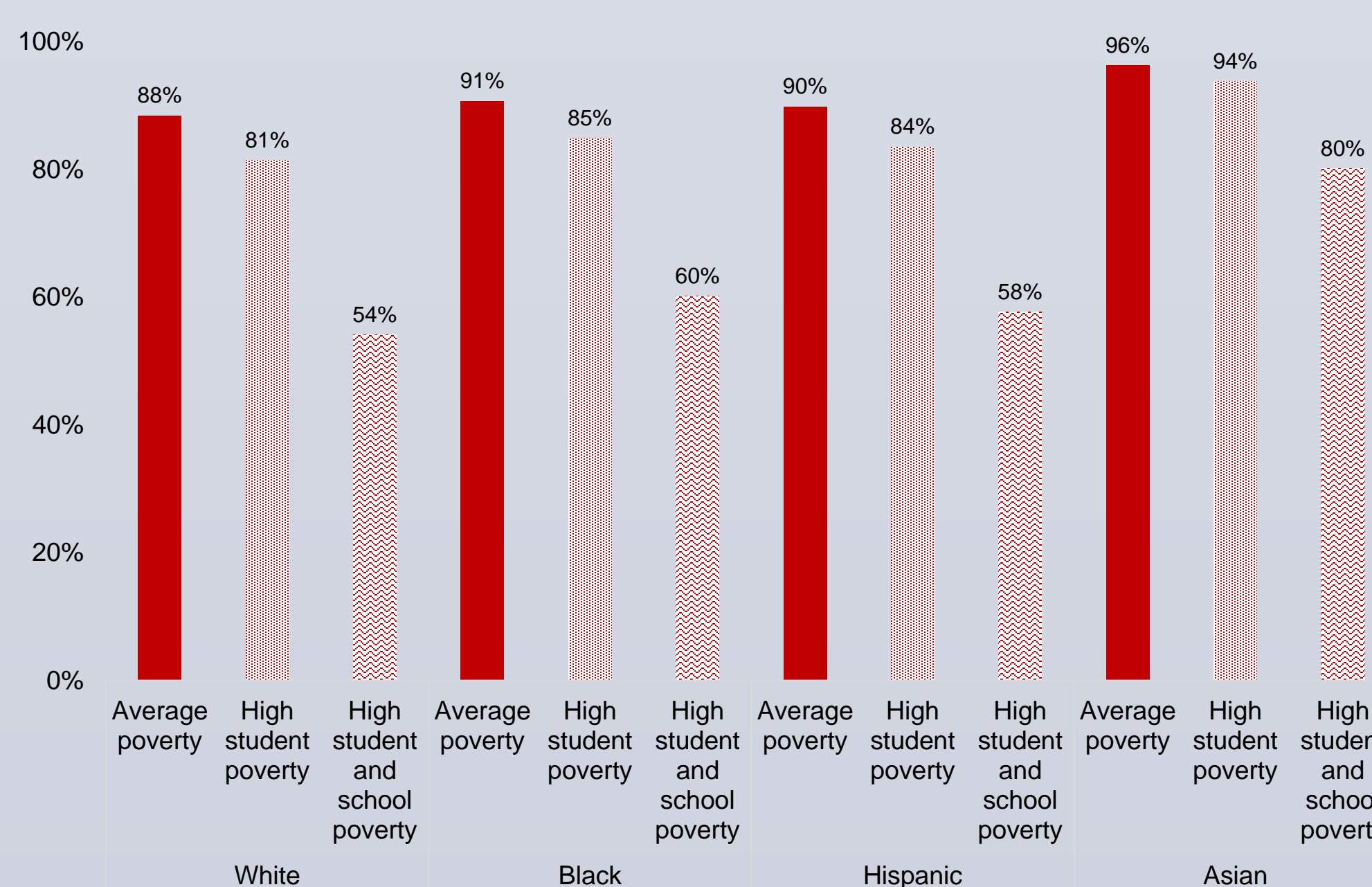
- Students who experienced poverty for longer periods of time had worse educational outcomes.
- School concentration of poverty, regardless of individual experience, usually predicted worse educational outcomes.

Predicted High School Assessment Algebra scores



Model-based predictions for students in schools with average racial/ethnic composition, based on the 2007-08 6th grade cohort ($N = 52,261$ of 54,465). Highest score.

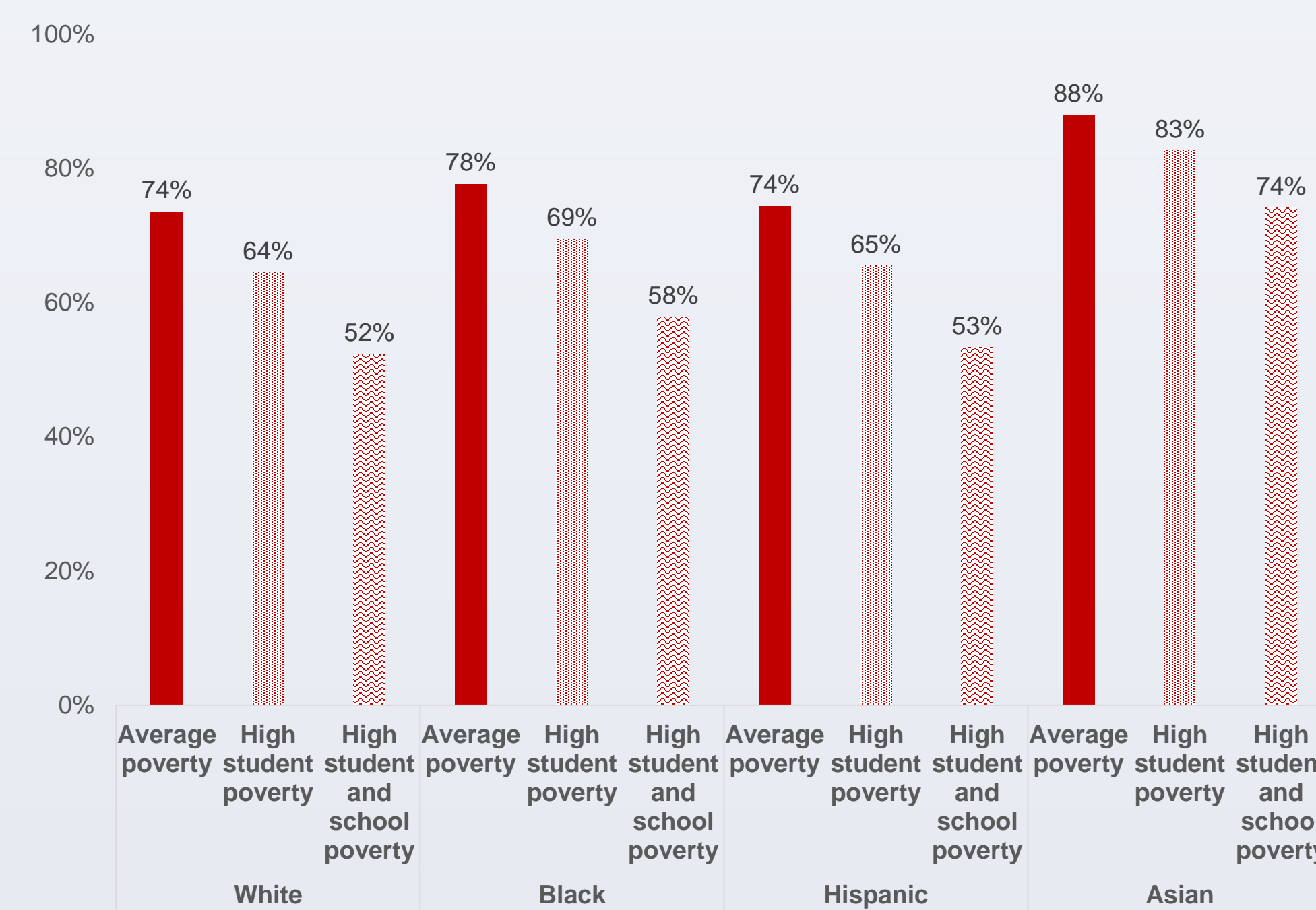
Predicted likelihood of on-time graduation



Model-based predictions for students in schools with average racial/ethnic composition, based on the 2007-08 6th grade cohort ($N = 54,465$).

Results: Predicted Academic Outcomes (cont'd)

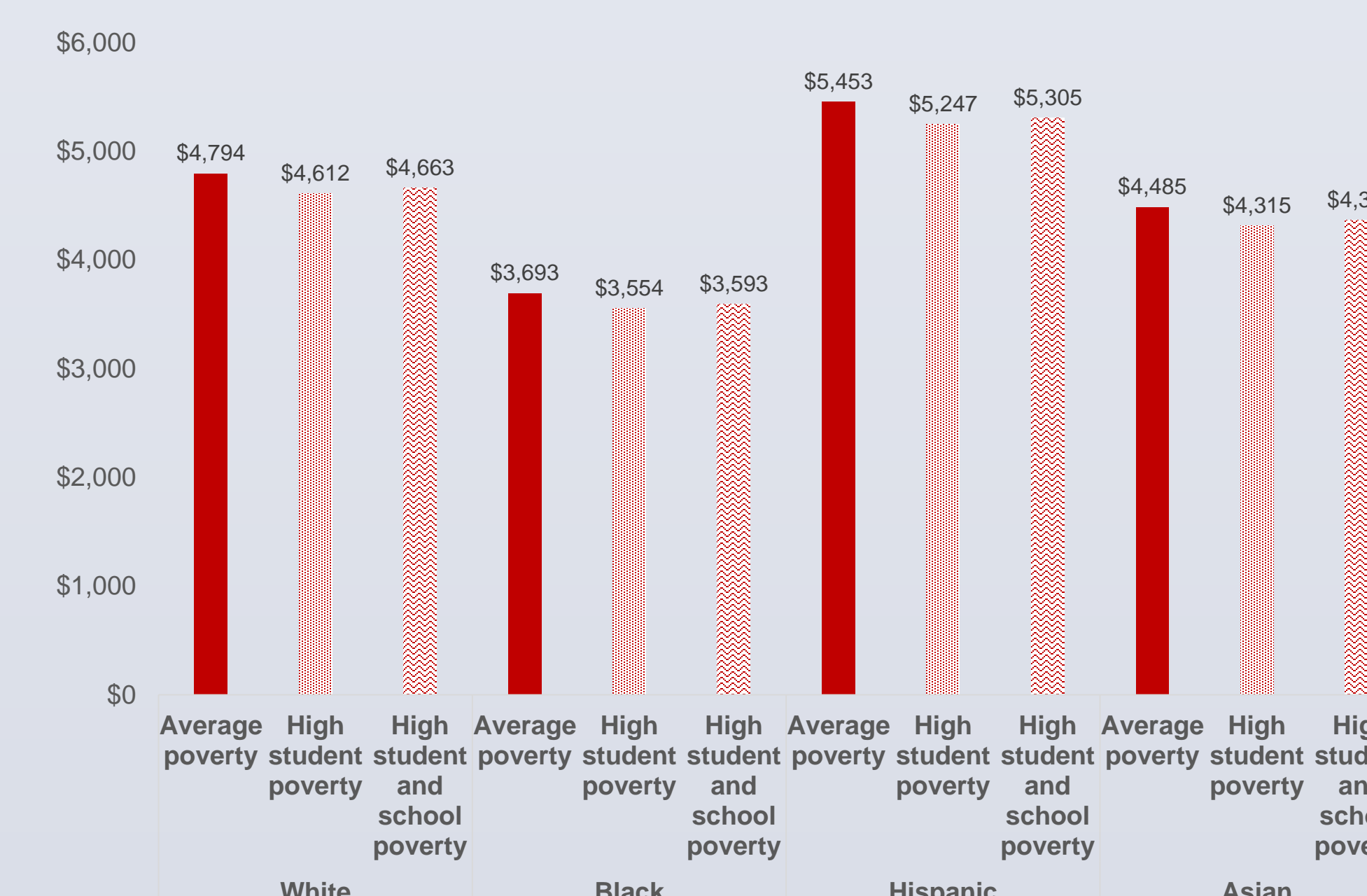
Predicted likelihood of enrolling in postsecondary within one year of on-time HS graduation



Model-based predictions for students in schools with average racial/ethnic composition, based on the 2007-08 6th grade cohort ($N = 46,581$ of 54,465).

Results: Predicted Workforce Outcomes

Predicted total wages in 1st 4 quarters after HS (not enrolled in college)



Model-based predictions for students in schools with average racial/ethnic composition, based on the 2007-08 6th grade cohort ($N = 8,693$ of 54,465).

Predicted total wages in 1st 4 quarters after HS (enrolled in college)



Model-based predictions for students in schools with average racial/ethnic composition, based on the 2007-08 6th grade cohort ($N = 23,005$ of 54,465).

Summary of Results

- Both student and school-level poverty were related to long-term academic outcomes, even after controlling for individual student race and school racial/ethnic composition.
- School concentration of poverty, regardless of individual poverty experience and race, usually predicted worse educational outcomes.
- Racial and ethnic gaps in standardized test scores persisted regardless of student and school-level poverty.
- Racial and ethnic gaps in high school graduation and postsecondary enrollment disappeared or reversed when controlling for student and school-level poverty and school's racial/ethnic composition.
- Poverty was related to lower annual wages for students not enrolled in college and higher annual wages for those enrolled in college.

Policy Implications

- Implementation of additional programs and policies for students living in poverty and schools with high concentrations of poverty.
- Focus on strengths within high-poverty schools to better support students.
- Establish partnerships within the surrounding community to increase academic and/or career success.

Future Research

- Examine the protective role of additional student and school level characteristics.
- Include elementary levels to assess effects of poverty during the entire K-12 experience.
- Examine additional college and career outcomes (e.g. college persistence and degree attainment, workforce trajectories).
- Compare measures of poverty (FARMS vs census data).

Acknowledgments

This research was funded in part by the Maryland Longitudinal Data System (MLDS) Center. We appreciate the data, technical, and research support provided by the MLDS Center. The views and opinions expressed are those of the authors and do not reflect the opinion of the State of Maryland, the MLDS Center, the MLDS Governing Board, or its partner agencies.

Contact

Dawnsha.mushonga@ssw.umaryland.edu