

# MLDS CENTER

Maryland Longitudinal  
Data System

Better Data • Informed Choices • Improved Results

Long-term Educational  
and Workforce  
Outcomes of Adolescent  
Poverty and  
Homelessness

Dr. Bess A. Rose

MLDS Center Research Series

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[mldscenter.maryland.gov](http://mldscenter.maryland.gov)

# Acknowledgements

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# Overview

- Background
- Description of study cohort
- Outcomes disaggregated by homelessness/poverty and race/ethnicity
- Model results and predictions
- Discussion

# Background

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- Ongoing study into the effects of adolescent poverty on long-term outcomes
- We were asked to estimate the effect of *attending a school with a high concentration of poverty*, apart from the effect of experiencing poverty at home
- Controlled for race/ethnicity, school composition, baseline academic achievement, and school clustering
- We found attending a high-poverty school:
  - decreases Algebra and English scores
  - decreases likelihood of graduating from HS on time
  - decreases likelihood of enrolling in college
  - increases total wages during college



# FARMS eligibility thresholds

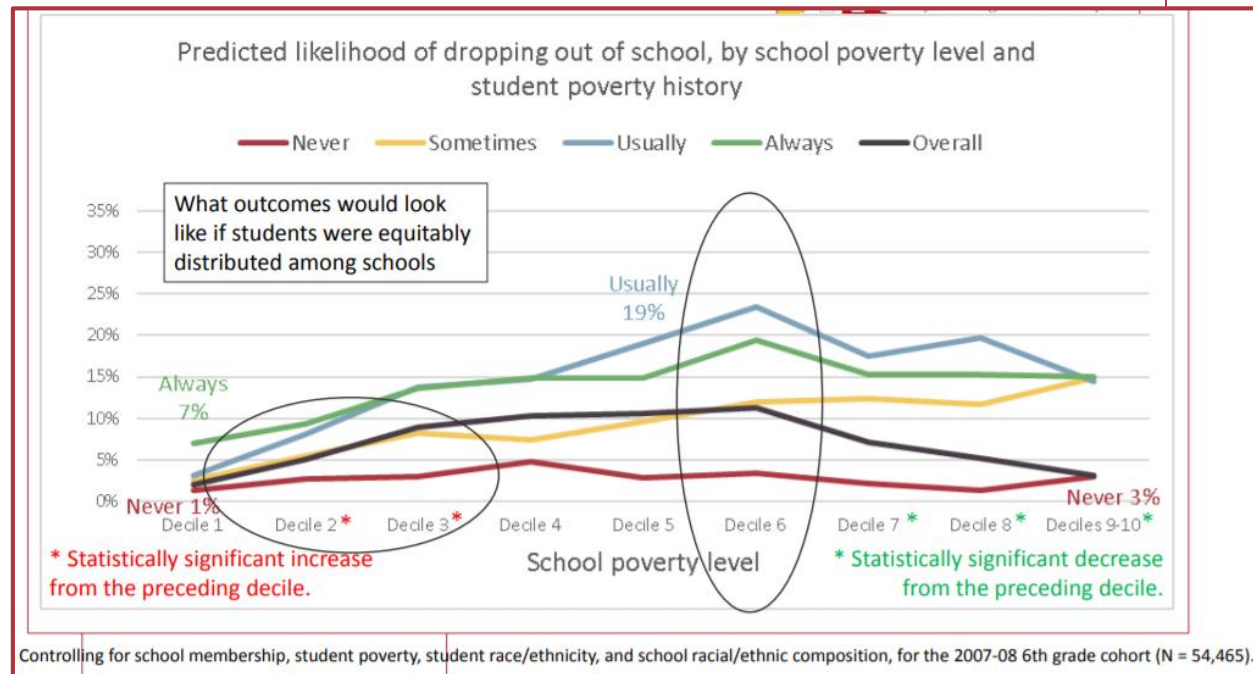


Household income thresholds for a family of 4

- In MLDS data, FARMS = “Y” means household income below 185% of federal poverty threshold
  - Below \$45,510 in 2017-18 for a family of 4
- We used *proportion of time eligible for FARMS*
  - From 0% (never) to 100% (always)

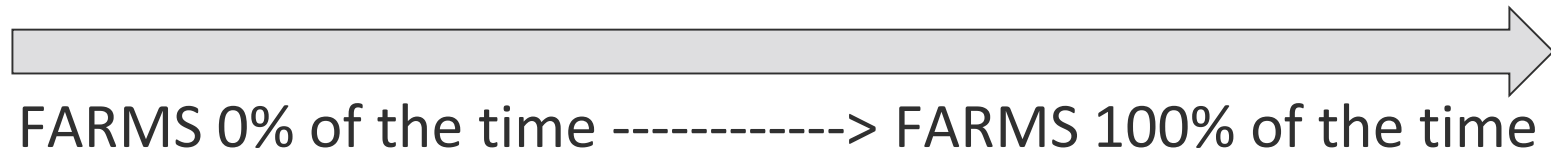
# Previous findings for students who were *usually or always FARMS*

- More likely to drop out, after controlling for other factors
- More negatively affected by attending high-poverty schools

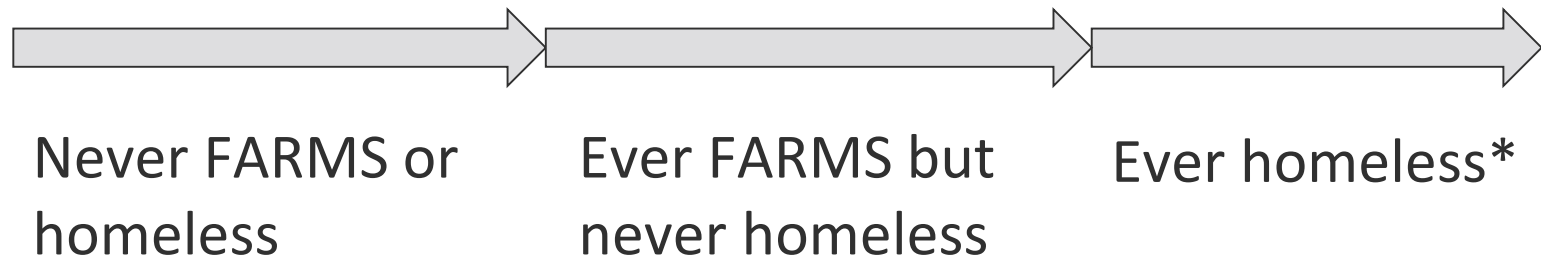


# Conceptualizing poverty

Previous measure only considered FARMS



New measure recognizes homelessness as distinct from FARMS





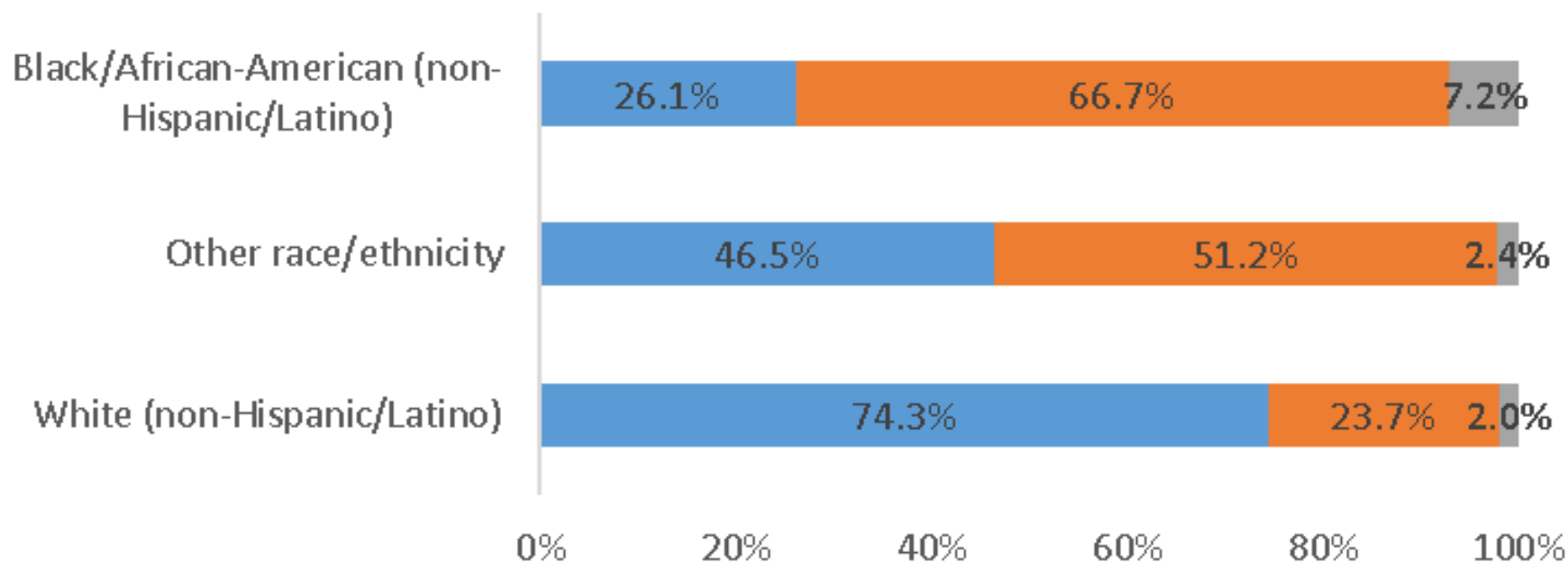
# Description of study cohort

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- *Single-cohort study* (N=52,610)
  - 6th graders in 2007-08
  - Who did not transfer out of MD public schools
- From 6th through 12th grade:
  - Never FARMS or homeless: 52%
  - Ever FARMS but never homeless: 44%
  - **Ever homeless:**  
4% (n=2,065)
- Looking at students longitudinally picks up on higher chances of being homeless *at some point in time*
  - Point-in-time (2018-19) homelessness rate for all MD students: 1.5%

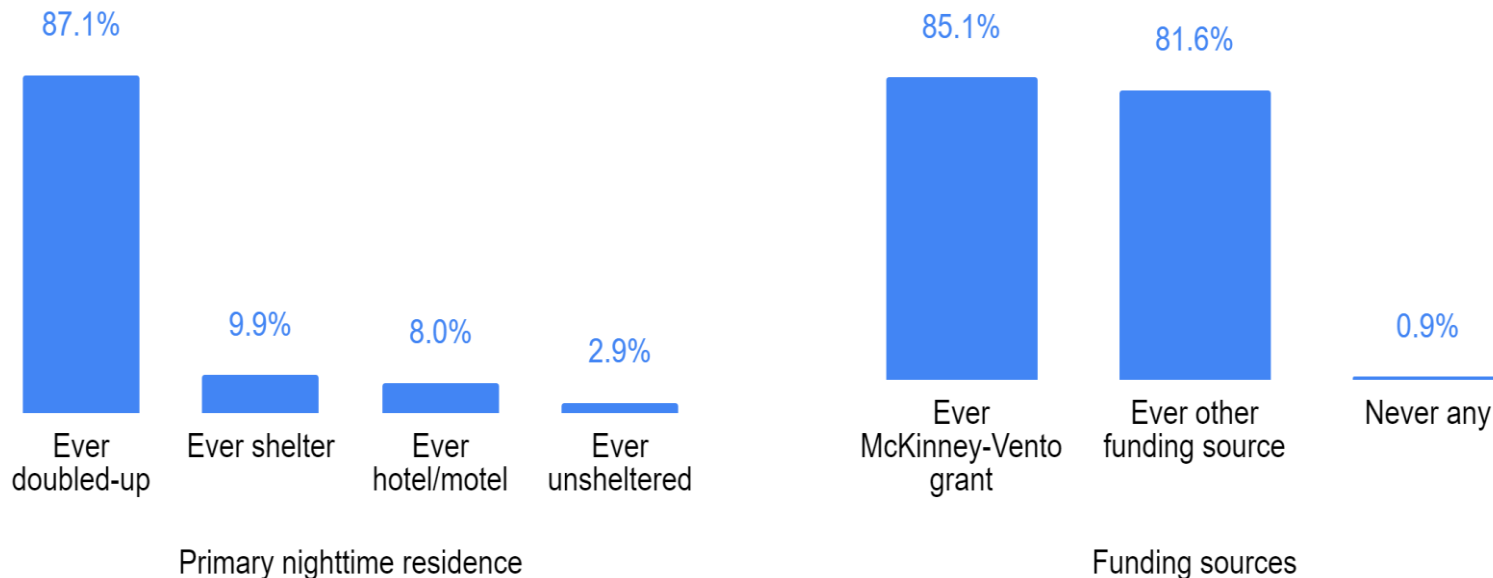
## Poverty and homelessness by race/ethnicity

■ Never FARMS or Homeless    
 ■ FARMS but not Homeless    
 ■ Homeless



# Homeless students in study cohort

- Federal reporting requirements about homeless students include *primary nighttime residence* and *funding support*
- With *longitudinal* data, we can look at *whether they have ever been* in each housing category and funding source

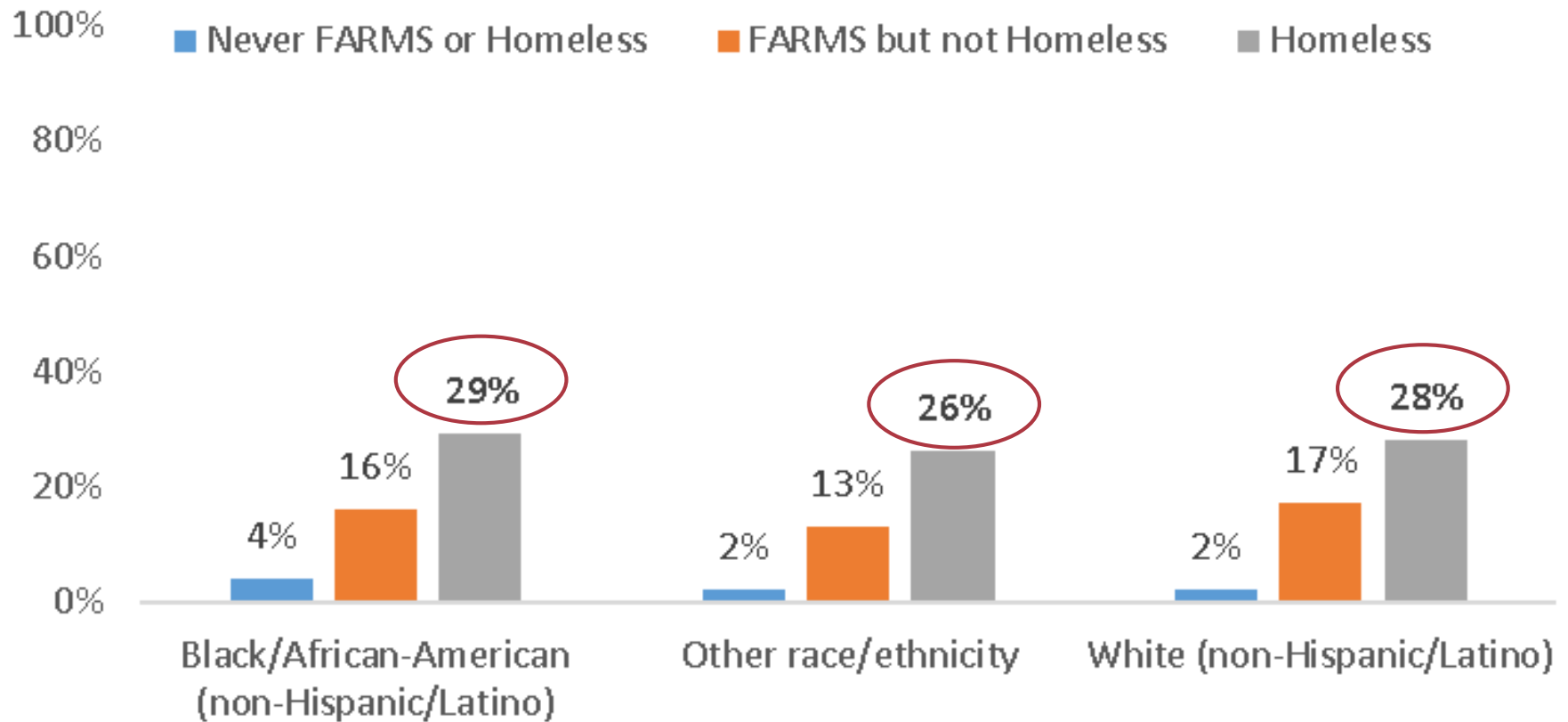


# Outcomes disaggregated by homelessness/poverty and race/ethnicity

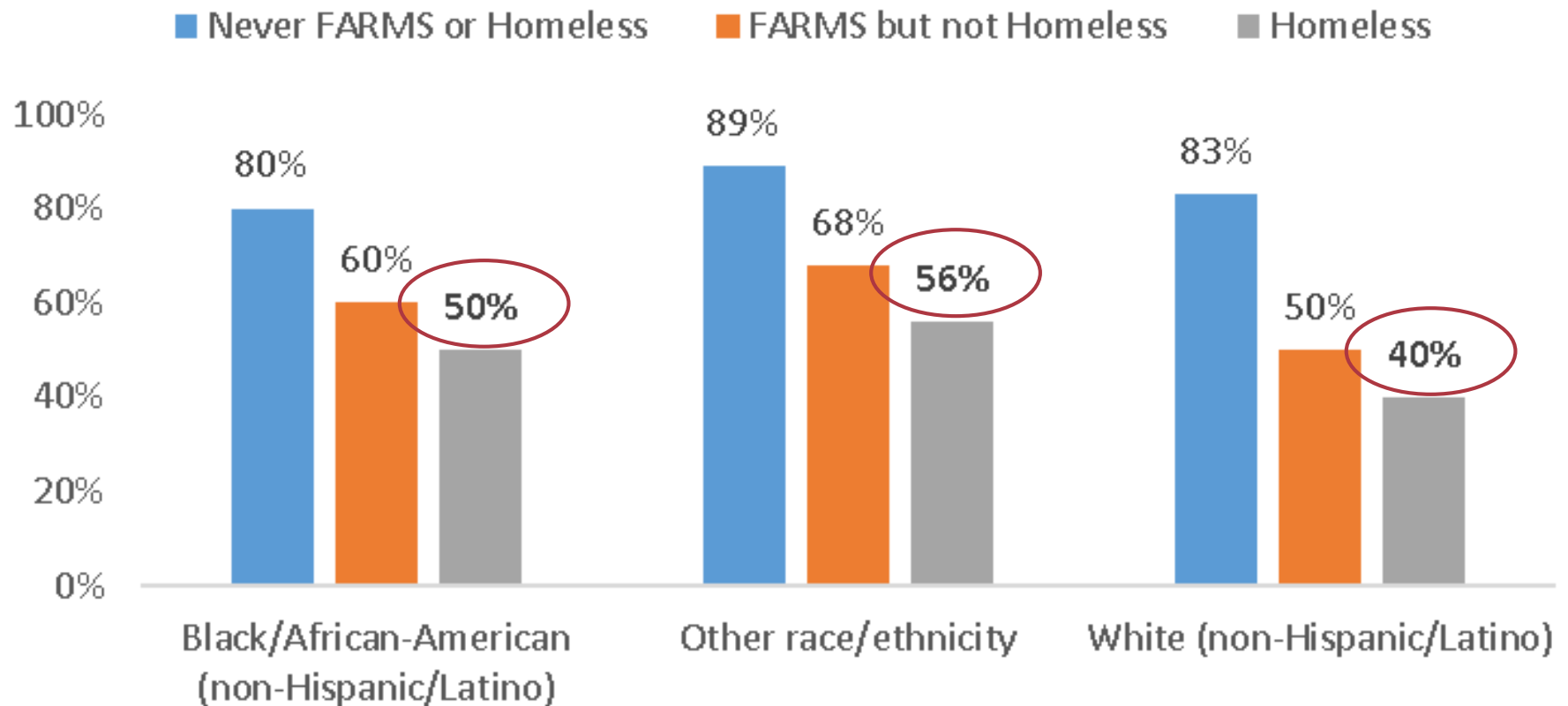
# Outcomes and analytic approach

- We looked at 3 outcomes:
  - Dropping out of school
  - Enrolling in college within the first year after high school
  - Total wages earned during the first year after high school
- Looking at disaggregated outcomes by poverty/homelessness and race/ethnicity, it appears that homeless students have worse academic outcomes than their FARMS peers, with complicated patterns for workforce outcomes
- Do the patterns still appear when we use multilevel models to disentangle all the student and school

## Dropout rates by type of poverty and race/ethnicity



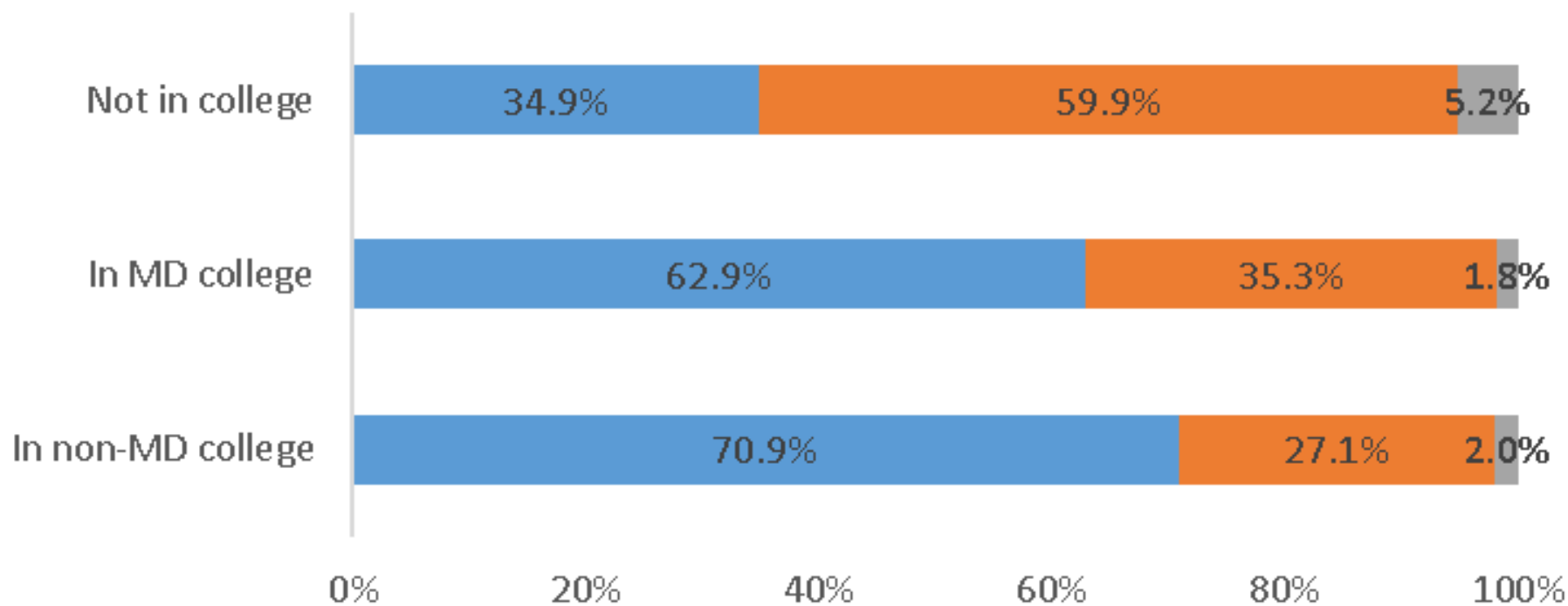
## College enrollment rates by type of poverty and race/ethnicity





## Location 1st year after on-time HS graduation by type of poverty

■ Never FARMS or Homeless    
 ■ FARMS but not Homeless    
 ■ Homeless

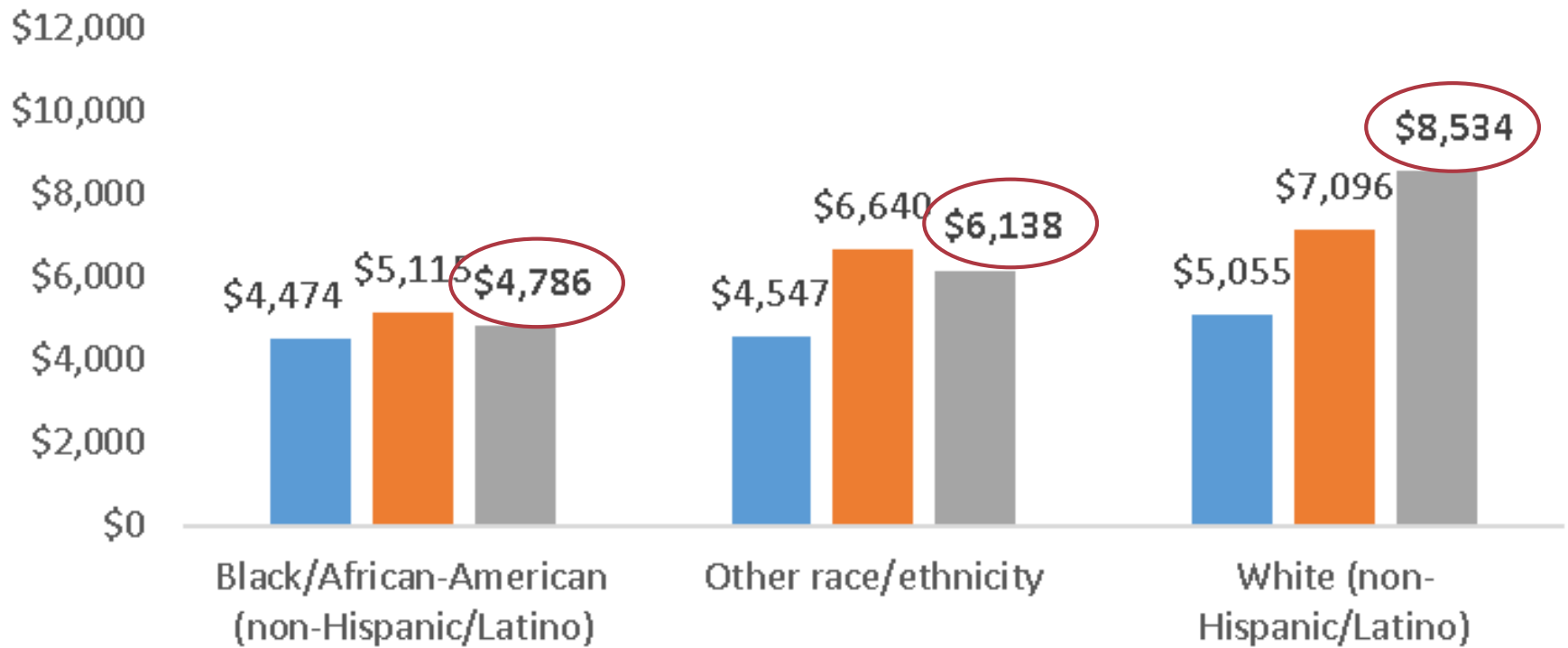


## Mean total wages in 1st year after HS (not in college) by type of poverty and race/ethnicity



## Mean total wages in 1st year after HS (in MD college) by type of poverty and race/ethnicity

■ Never FARMS or Homeless    ■ FARMS but not Homeless    ■ Homeless



# Model results and predictions

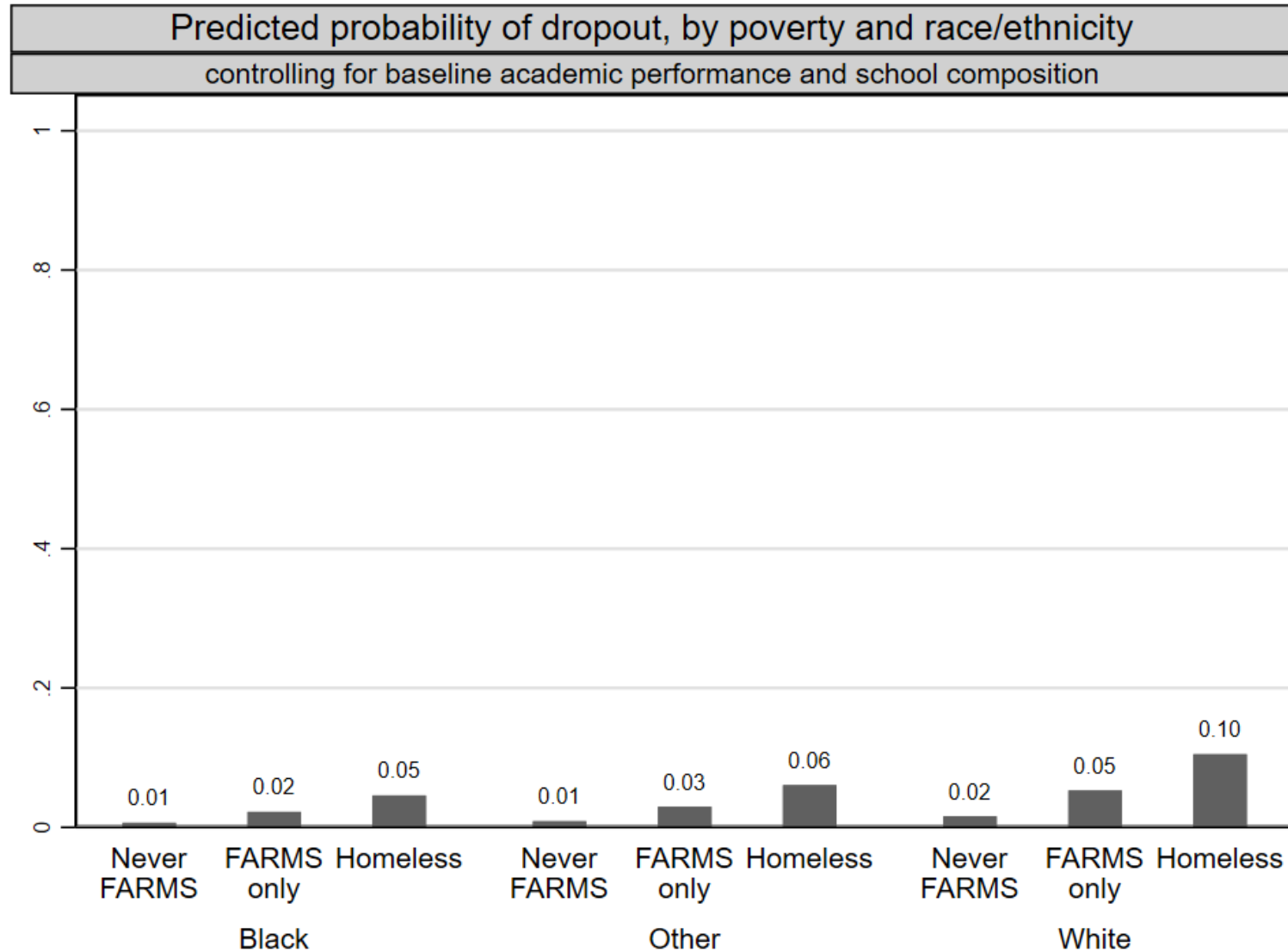
# Research question

What is the relationship of homelessness with academic and workforce outcomes, compared to poverty without homelessness, controlling for race/ethnicity, baseline academic achievement, and school composition and clustering?

1. Dropping out of school
2. Enrolling in college within one year of on-time high school graduation
3. Total wages earned in the first year after on-time high school graduation - for those not enrolled in college
4. Total wages earned in the first year after on-time high school graduation - for those enrolled in college in MD

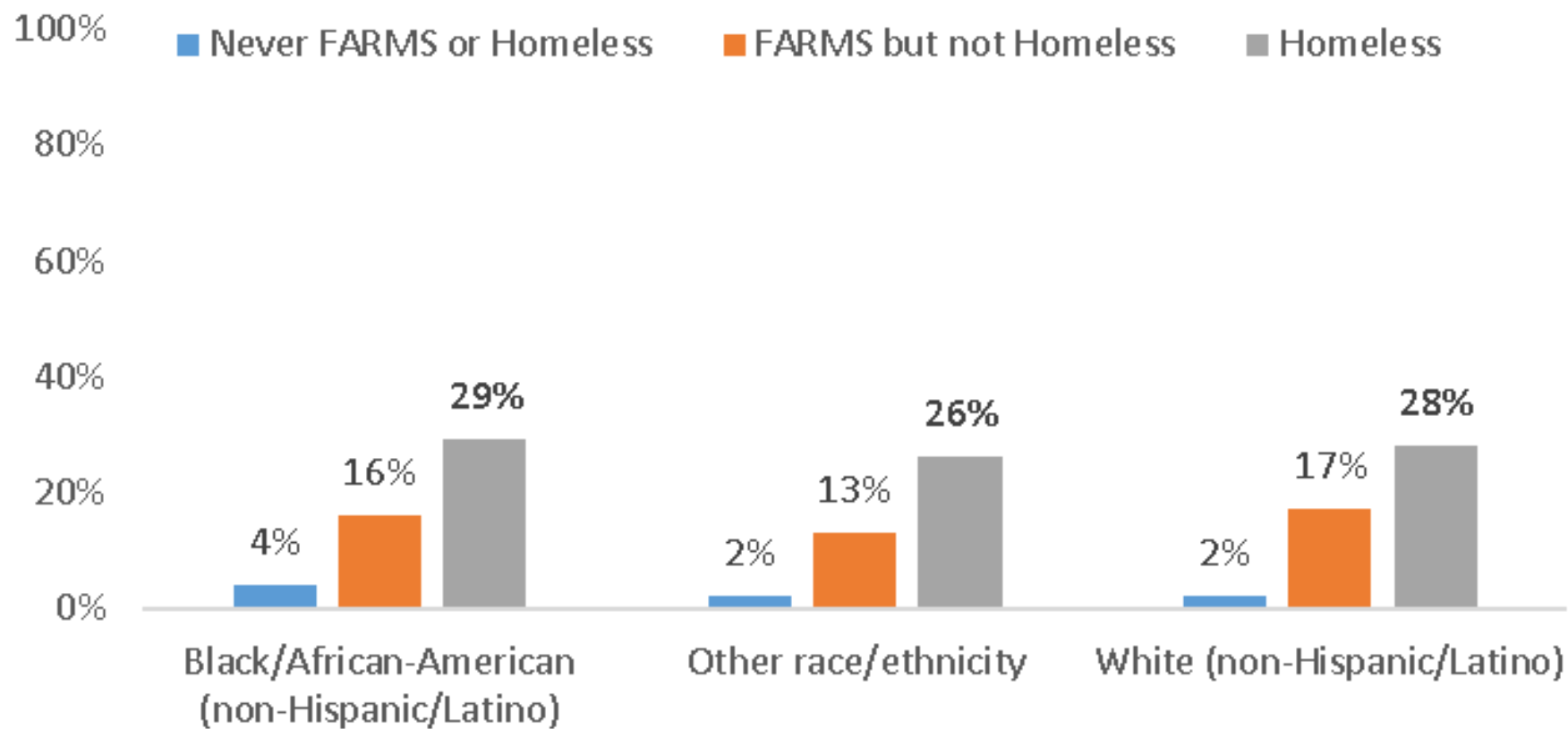
## Dropout (N=52,610)

	<u>B</u>	<u>OR</u>
Intercept	-2.89***	0.06***
Student-level		
Never FARMS or homeless	-1.24***	0.29***
FARMS but not homeless	referent	referent
<b>Homeless</b>	<b>0.74***</b>	<b>2.10***</b>
Black, non-Hispanic	-0.89***	0.41***
Other race/ethnicity	-0.60***	0.55***
White	referent	referent
Grade 6 Reading	√	√
Grade 6 Math	√	√
School-level		
Sch pct never FARMS or homeless	√	√
Sch pct homeless	√	√
Sch pct black	√	√
Sch pct other race	√	√
Sch mean Grade 6 Reading & Math	√	√



Note. Model-based predictions based on the cohort of 6th graders in 2007-08, n=52,610.

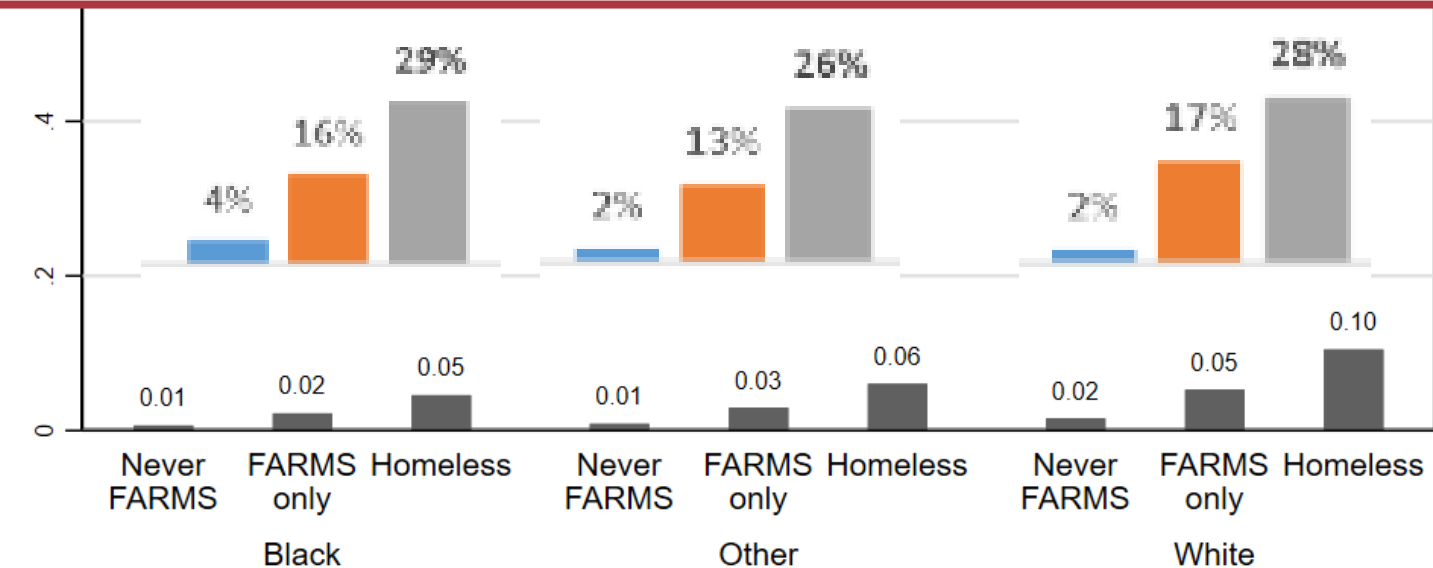
## Dropout rates by type of poverty and race/ethnicity







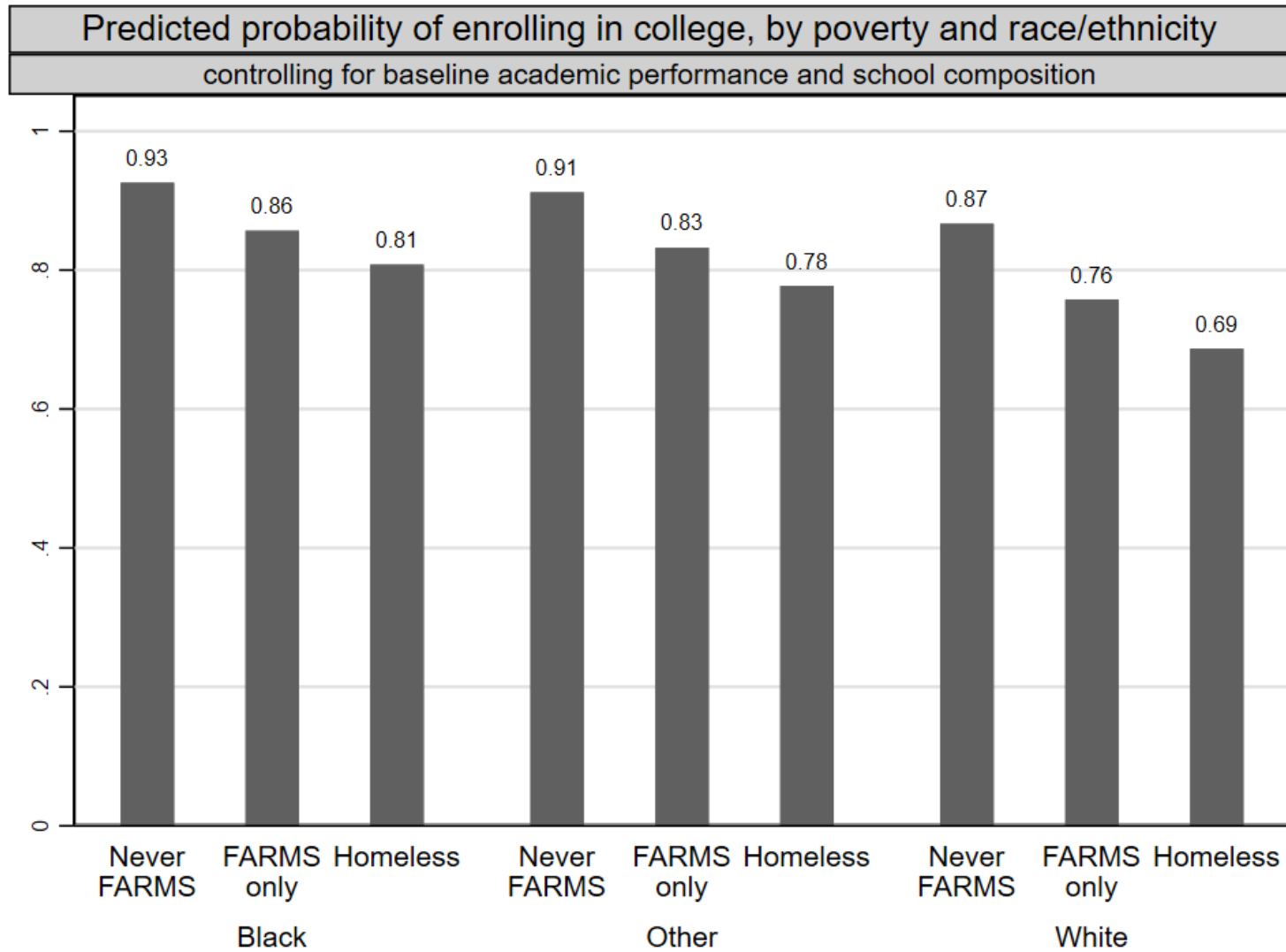
Model predictions are for the average student in the average school with the same baseline academic performance and school composition, and controlling for the effects of students being clustered in schools. These are apple-to-apple comparisons focused on the effects of student homelessness.



Note. Model-based predictions based on the cohort of 6th graders in 2007-08, n=52,610.

**College enrollment (N=45,580)**

	<b><u>B</u></b>	<b><u>OR</u></b>
Intercept	1.14***	3.120***
Student-level		
Never FARMS or homeless	0.73***	2.085***
FARMS but not homeless	referent	referent
<b>Homeless</b>	<b>-0.35***</b>	<b>0.703***</b>
Black, non-Hispanic	0.65***	1.917***
Other race/ethnicity	0.47***	1.592***
Grade 6 Reading	√	√
Grade 6 Math	√	√
School-level		
Sch pct never FARMS or homeless	√	√
Sch pct homeless	√	√
Sch pct black	√	√
Sch pct other race	√	√
Sch mean Grade 6 Reading & Math	√	√



Note. Model-based predictions based on the cohort of 6th graders in 2007-08 who graduated from HS on time, n=45,580.

## Summary - academic effects

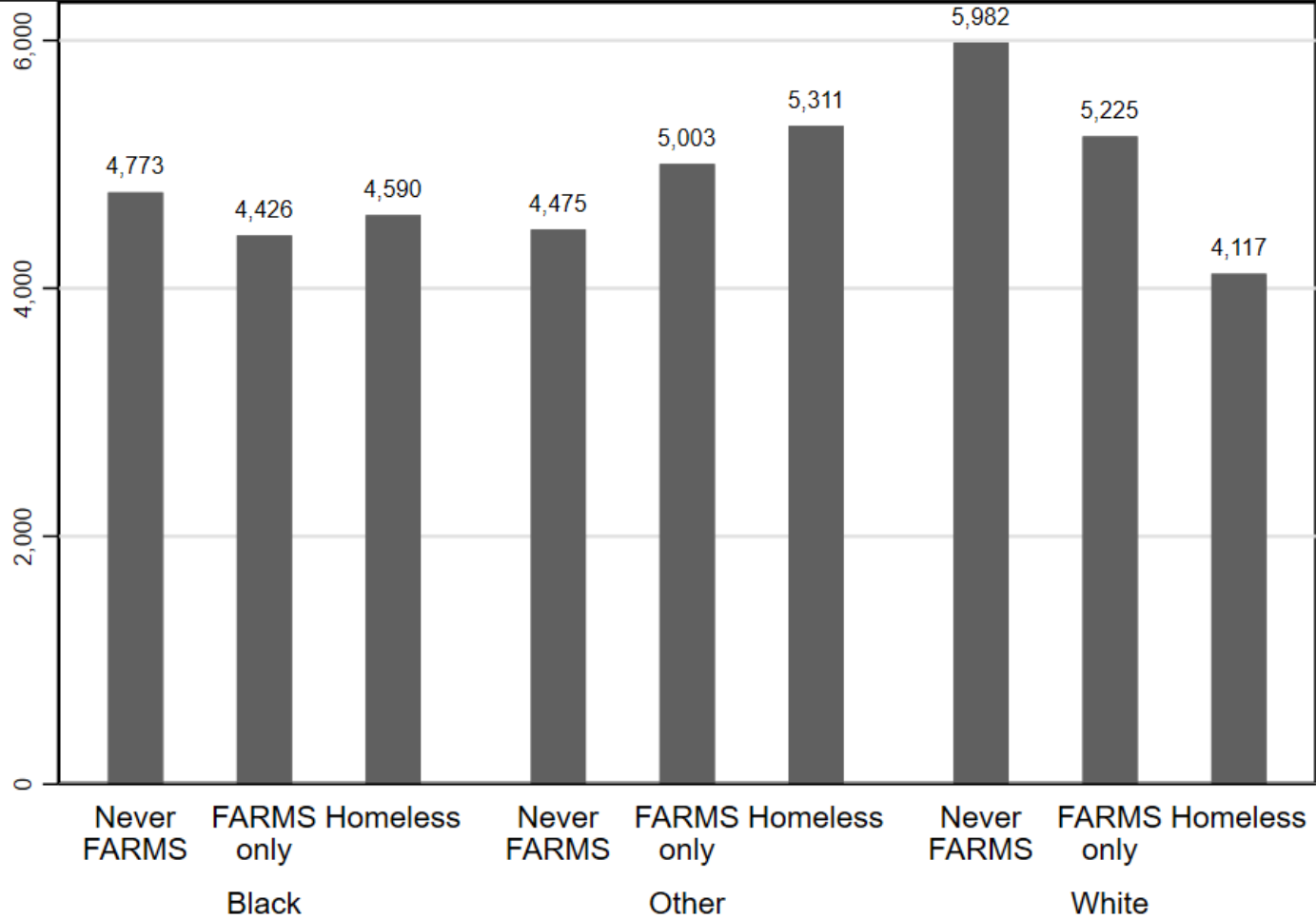
- *Compared to a similar student who experienced poverty without homelessness, experiencing homelessness is estimated to:*
  - Double a student's odds of dropping out of school
  - Decrease a student's odds of enrolling in college by about 30 percent

## Log wages – not in college

	<u>Blacks</u> n=3,506	<u>Other</u> n=1,064	<u>Whites</u> n=3,959
Intercept	8.40***	8.52***	8.56***
Student-level			
Never FARMS or homeless	0.08	-0.11	0.14**
FARMS but not homeless	referent	referent	referent
<b>Homeless</b>	<b>0.04</b>	<b>0.06</b>	<b>-0.24*</b>
Grade 6 Reading	✓	✓	✓
Grade 6 Math	✓	✓	✓
School-level			
Sch pct never FARMS or homeless	✓	✓	✓
Sch pct homeless	✓	✓	✓
Sch pct black	✓	✓	✓
Sch pct other race	✓	✓	✓
Sch mean Grade 6 Reading & Math	✓	✓	✓



**Predicted MD wages - not enrolled in college, by poverty and race/ethnicity**  
controlling for baseline academic performance and school composition



Note. Model-based predictions based on the cohort of 6th graders in 2007-08 who graduated from HS on time and were not enrolled in college, Blacks n=3,506, Other n=1,064, Whites n=3,959.

# Summary - wages for those not in college

- White students:
  - *Compared to a similar student who experienced poverty without homelessness, experiencing homelessness is estimated to lower wages (for White students only)*
- Black & Other Race/Ethnicity students:
  - Homelessness no different from poverty without homelessness
  - Those who experienced either kind of poverty are predicted to earn wages that are no different from those who did not experience any kind of poverty
  - This could be due to small Ns: Blacks n=3,506, Other n=1,064, Whites n=3,959

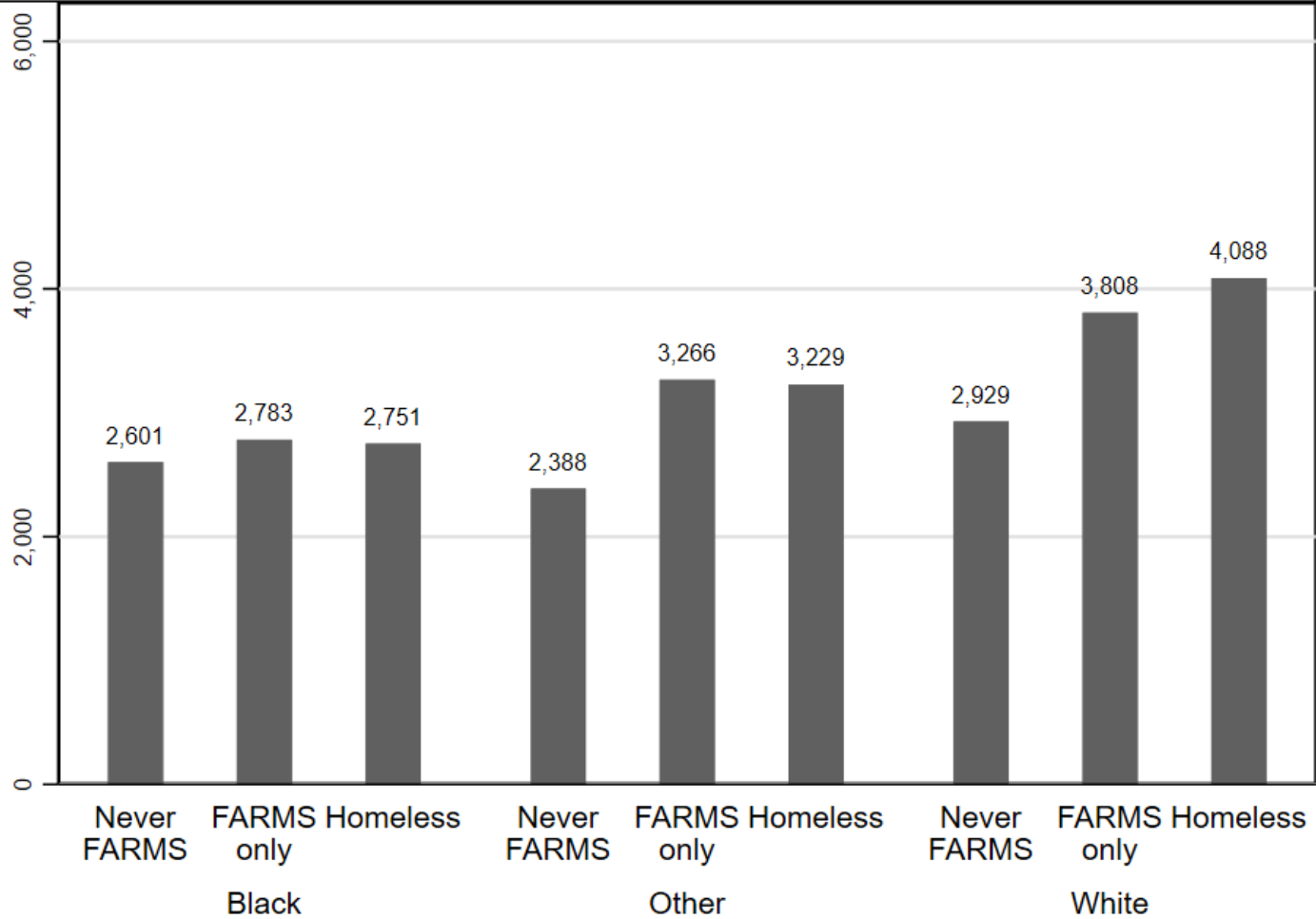
## Log wages – in college in MD

	<u>Blacks</u> <b>n=5,313</b>	<u>Other</u> <b>n=3,536</b>	<u>Whites</u> <b>n=9,328</b>
Intercept	7.93***	8.09***	8.24***
Student-level			
Never FARMS or homeless	-0.07	-0.31***	-0.26***
FARMS but not homeless	referent	referent	referent
<b>Homeless</b>	<b>-0.01</b>	<b>-0.01</b>	<b>0.07</b>
Grade 6 Reading	✓	✓	✓
Grade 6 Math	✓	✓	✓
School-level			
Sch pct never FARMS or homeless	✓	✓	✓
Sch pct homeless	✓	✓	✓
Sch pct black	✓	✓	✓
Sch pct other race	✓	✓	✓
Sch mean Grade 6 Reading & Math	✓	✓	✓





**Predicted MD wages - enrolled in MD college, by poverty and race/ethnicity**  
controlling for baseline academic performance and school composition



Note. Model-based predictions based on the cohort of 6th graders in 2007-08 who graduated HS on time and were enrolled in college in MD, Whites n=9,328, Blacks n=5,313, Other n=3,536.

# Summary - wages for those in college in MD

- Among whites and students of other race/ethnicities, students who experienced any form of poverty are predicted to have significantly *higher* wages than those who did not experience any form of poverty
  - While in college, both kinds of poverty operate similarly for non-Blacks
  - Experience with poverty likely means working more
  - It could also reflect being in a higher-wage area
- Among Blacks, there is no significant role for either type of poverty
  - Wages are uniformly lower for Blacks compared to other groups

# Summary

- The conceptualization of poverty using homelessness as a more extreme form of poverty than FARMS is a useful one
- Homelessness has a distinct role in academic outcomes (likelihood to drop out of school, likelihood to enroll in college), suggesting that problems associated with homelessness are not just about poverty
- Effects of poverty and homelessness on wages were not the same for all racial/ethnic groups
  - For those not in college, poverty and homelessness made a difference only for whites
  - For those in college, homelessness and poverty operate similarly, but make no difference for Blacks

# Limitations

- Started with 6th grade due to need to link to long-term outcomes (MLDS starts with 2007-2008) - poverty and homelessness during elementary school may have different effects
- Unmeasured confounders may explain some observed relationships (e.g., location)
- Wage data is limited to MD employers subject to Unemployment Insurance (no federal, independent contractors, out-of-state employment)
- Identification of homeless students under McKinney-Vento uses a different definition than in other fields (includes doubled-up, couch surfing)

# Future Research

- Include additional factors in models
  - Location
  - District receipt of McKinney-Vento grant funding
  - Homeless students' primary nighttime residence
  - Homeless students' receipt of services/funding support
- Use additional cohorts in order to increase statistical power
- Assess differential attrition to ensure representative population
  - On the one hand, if the homeless population is more transitory they may leave MD public schools
  - On the other hand, they may have limited options and may be more likely to stay

# Discussion

Questions? Comments? Suggestions?

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