

# Race and Economic Opportunity in the United States

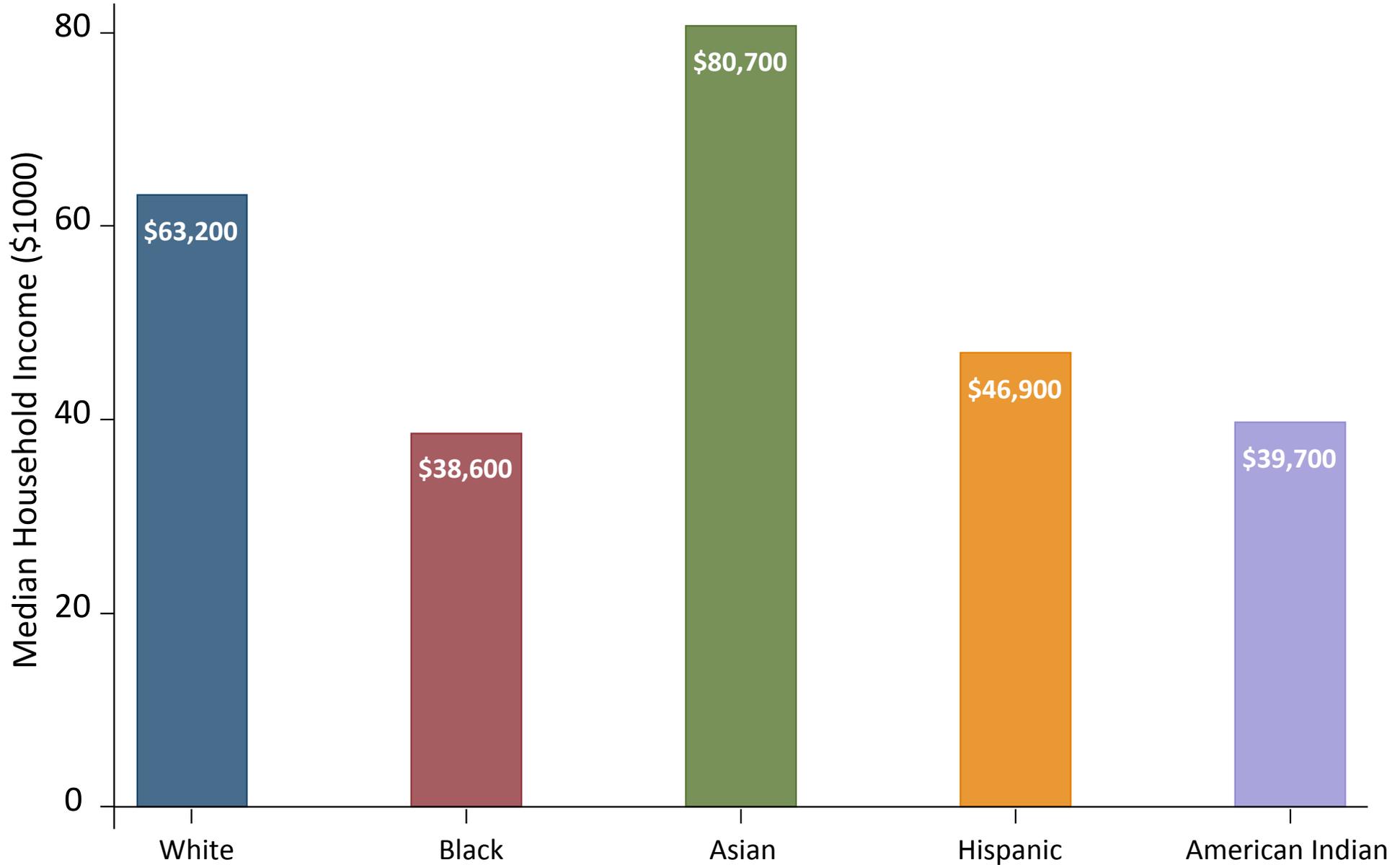
## An Intergenerational Perspective

Raj Chetty, Stanford  
Nathaniel Hendren, Harvard  
Maggie R. Jones, U.S. Census Bureau  
Sonya Porter, U.S. Census Bureau

March 2018

*Disclaimer:* The views expressed are not necessarily those of the U.S. Census Bureau. The statistical summaries reported in these slides have been cleared by the Census Bureau's Disclosure Review Board release authorization number CBDRB-FY18-195. All values in the tables and figures that appear in this presentation have been rounded to four significant digits as part of the disclosure avoidance protocol.

# Median Household Income by Race and Ethnicity in 2016



# Theories of Racial Disparities

Family-Level Factors	
Parental Income	Magnuson & Duncan 2006; Rothstein & Wozny 2012
Parental Human Capital & Wealth	Oliver & Shapiro 1995; Orr 2003; Conley 2010
Family Structure and Stability	McAdoo 2002; Burchinal et al. 2011
Ability at Birth	Rushton & Jensen 2005 vs. Fryer & Levitt 2006
Structural Features of Environment	
Segregation, Neighborhoods	Massey & Denton 1993; Wilson 1987; Sampson and Wilson 1995; Smith 2005
School Quality	Card & Krueger 1992; Jencks & Phillips 1998; Dobbie & Fryer 2011
Discrimination in the Labor Market	Donohue & Heckman 1992; Heckman 1998; Pager 2003; Bertrand & Mullainathan 2004
Discrimination in Criminal Justice	Steffensmeier, Ulmer, Kramer 1998; Eberhardt et al. 2004; Alexander 2010
Social Alienation, Stereotype Threat	Steele & Aaronson 1995; Tatum 2004; Glover, Pallais, Pariente 2017
Cultural Factors and Social Norms	
Identity and Oppositional Norms	Fordham & Ogbu 1986; Noguera 2003; Carter 2005; Austen-Smith & Fryer 2005
Aspirations or Role Models	Mickelson 1990; Small, Harding, & Lamont 2010

## This Paper: An Intergenerational Perspective

- Prior work has typically studied racial disparities within a single generation
  - Exceptions: school district data, longitudinal survey data, qualitative studies [e.g., Card and Rothstein 2007, Reardon et al. 2016, Mazumder 2014, Lareau 2003]
- We take an intergenerational perspective, focusing on dynamics of income across generations
  - Use new de-identified data linking parents and children covering nearly the entire U.S. population from 1989-2015
- Intergenerational approach sheds light on which disparities will persist in the long run and allows us to isolate the factors that drive persistent gaps

- 1 Data and Sample Definitions 
- 2 Intergenerational Mobility by Race 
- 3 Marriage Rates and Gender Differences 
- 4 Family Level Explanations 
- 5 Neighborhood Level Explanations 

- 1 Data and Sample Definitions 
- 2 Intergenerational Mobility by Race 
- 3 Marriage Rates and Gender Differences 
- 4 Family Level Explanations 
- 5 Neighborhood Level Explanations 

## Data and Sample Definitions

- Data sources: Census data (2000, 2010, ACS) covering U.S. population linked to federal income tax returns from 1989-2015 [Akee, Jones, and Porter 2017]
- Intergenerational linkage: Children linked to parents who first claim them as a dependent on a tax return
- Target sample: Children in 1978-83 birth cohorts who were born in the U.S. or are authorized immigrants who came to the U.S. in childhood
- Analysis sample: 20 million children, 94% coverage rate of target sample

## Income Measures

- Parents' pre-tax household incomes: mean Adjusted Gross Income from 1994-2000, assigning non-filers zeros
- Children's pre-tax incomes measured in 2014-15 (ages 31-37)
  - Non-filers assigned incomes based on W-2's (available since 2005)
  - Begin with household income, then turn to individual (own) income
- Focus on percentile ranks: rank children relative to others in their birth cohort and parents relative to other parents

- 1 Data and Sample Definitions 
- 2 Intergenerational Mobility by Race 
- 3 Marriage Rates and Gender Differences 
- 4 Family Level Explanations 
- 5 Neighborhood Level Explanations 

## Intergenerational Mobility by Race

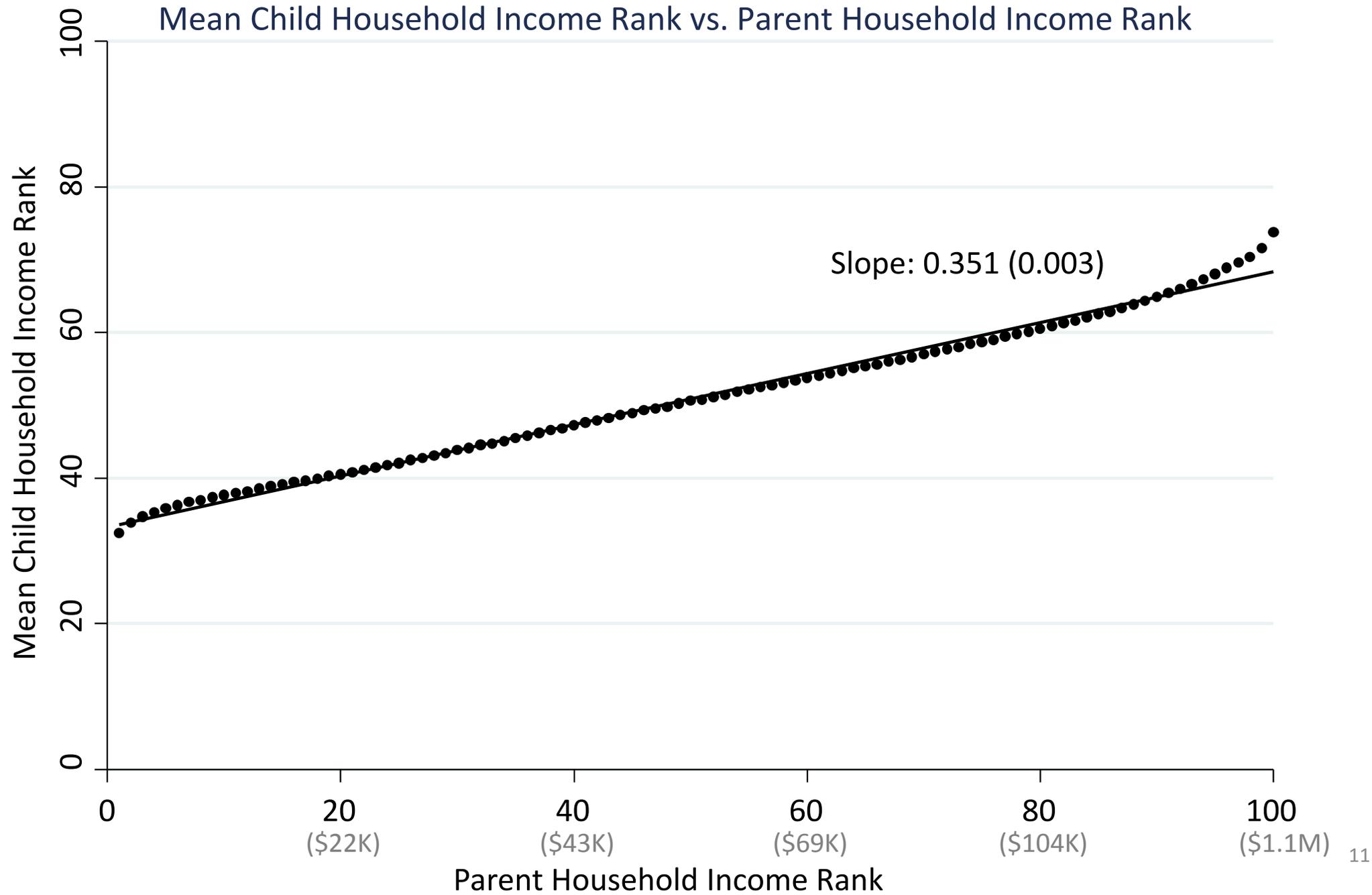
- Organize empirical analysis using a statistical model of intergenerational mobility and inequality [Becker and Tomes 1979]
  - Let  $i$  index families,  $t$  index generations, and  $r(i)$  denote race of family  $i$
  - Model child's income rank as a race-specific linear function of parent's income rank:

$$y_{it} = \alpha_r + \beta_r y_{i,t-1} + \varepsilon_{it}$$

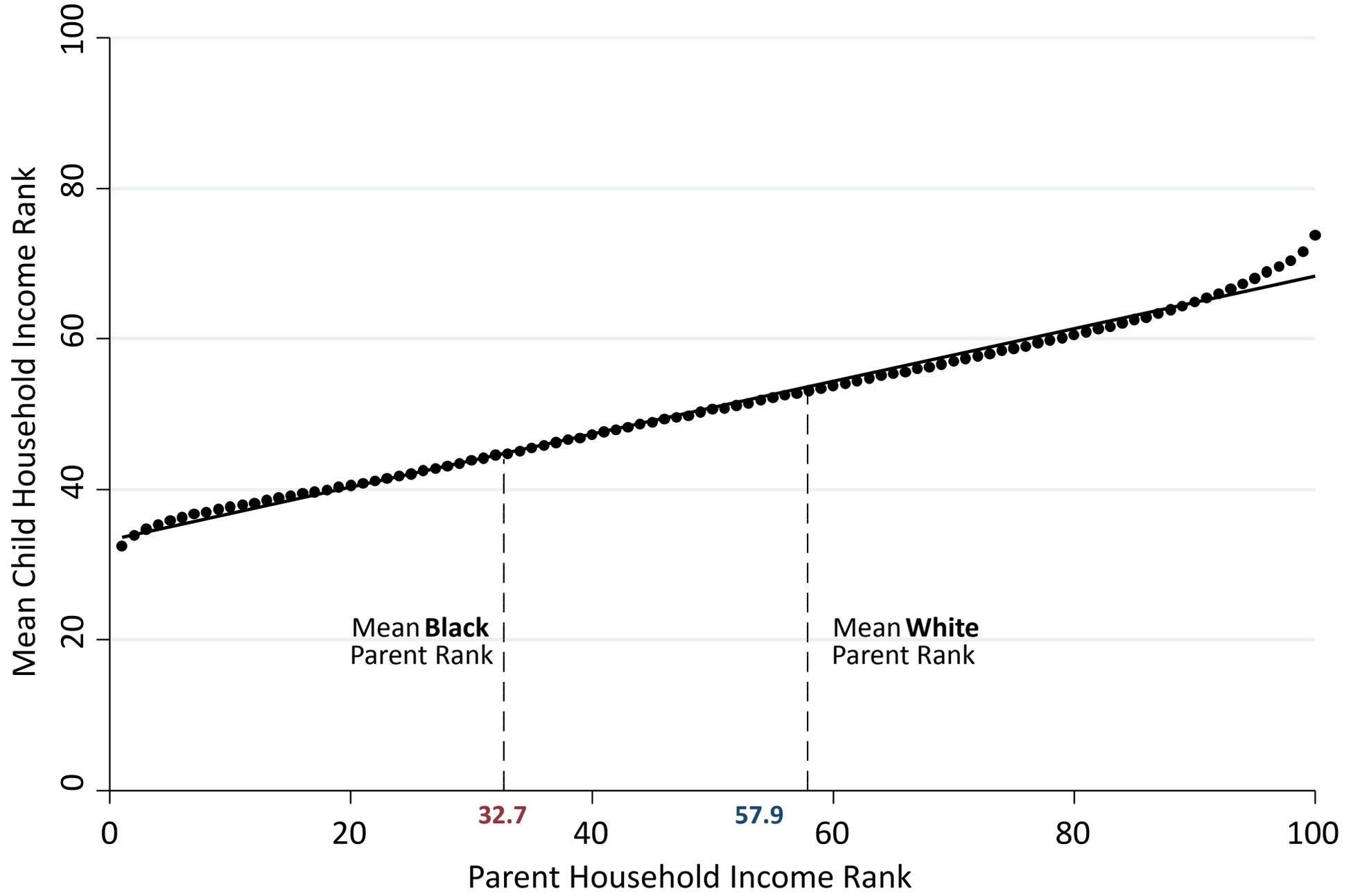
- Evolution of racial gaps and steady-state disparities in mean ranks controlled by rates of relative and absolute mobility ( $a_r$ ,  $b_r$ )

# Intergenerational Mobility in the United States

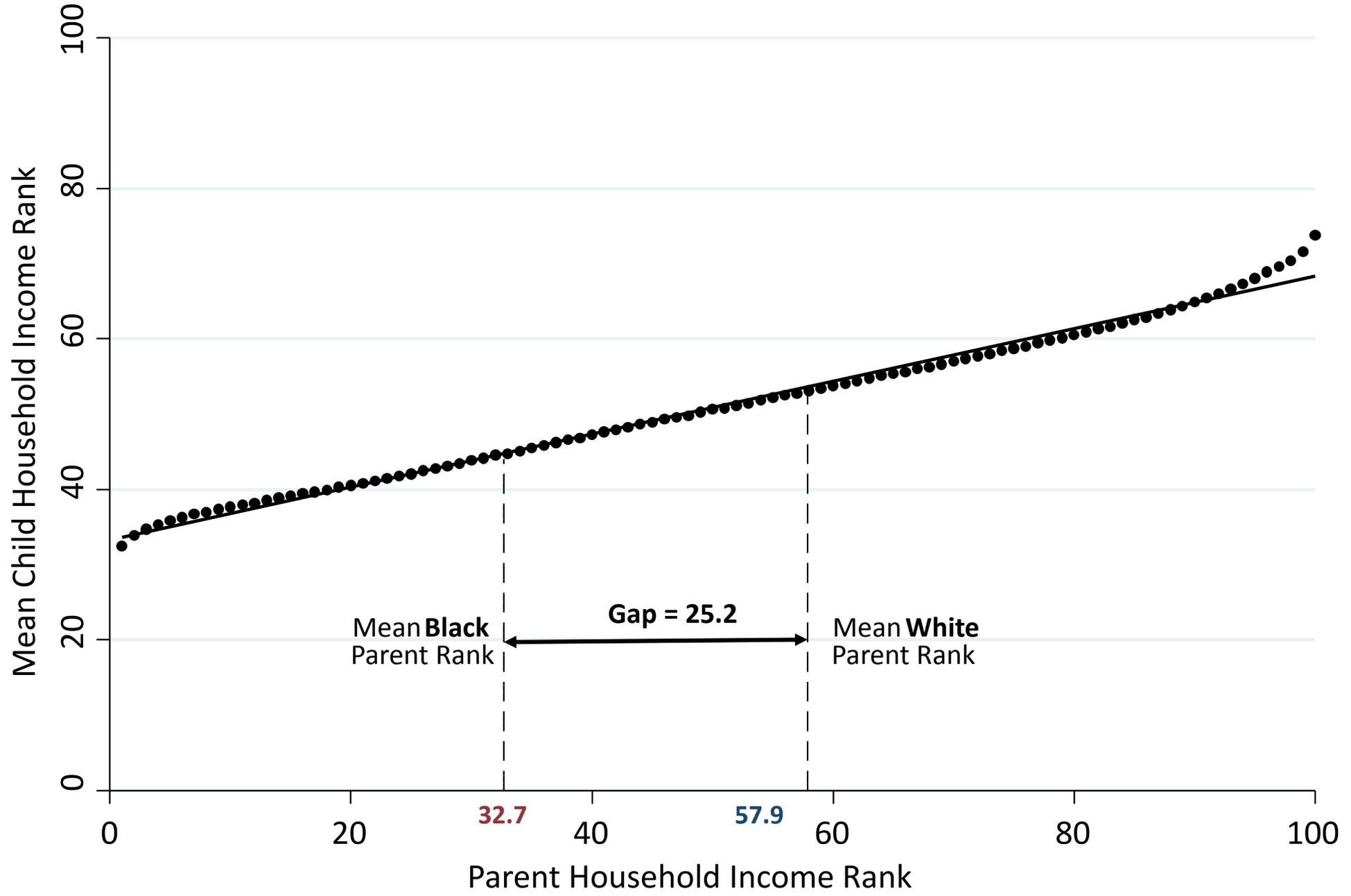
## Mean Child Household Income Rank vs. Parent Household Income Rank



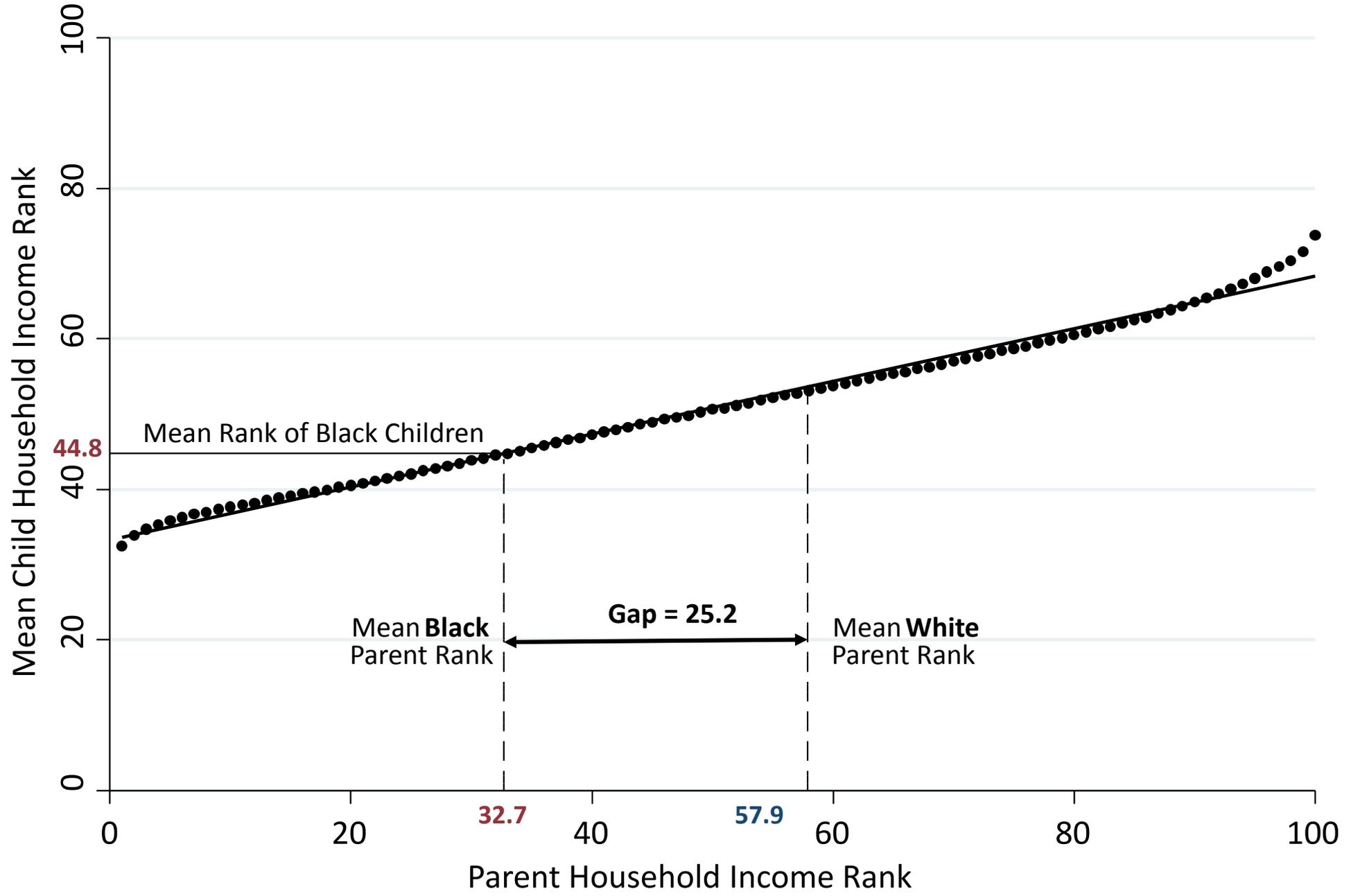
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



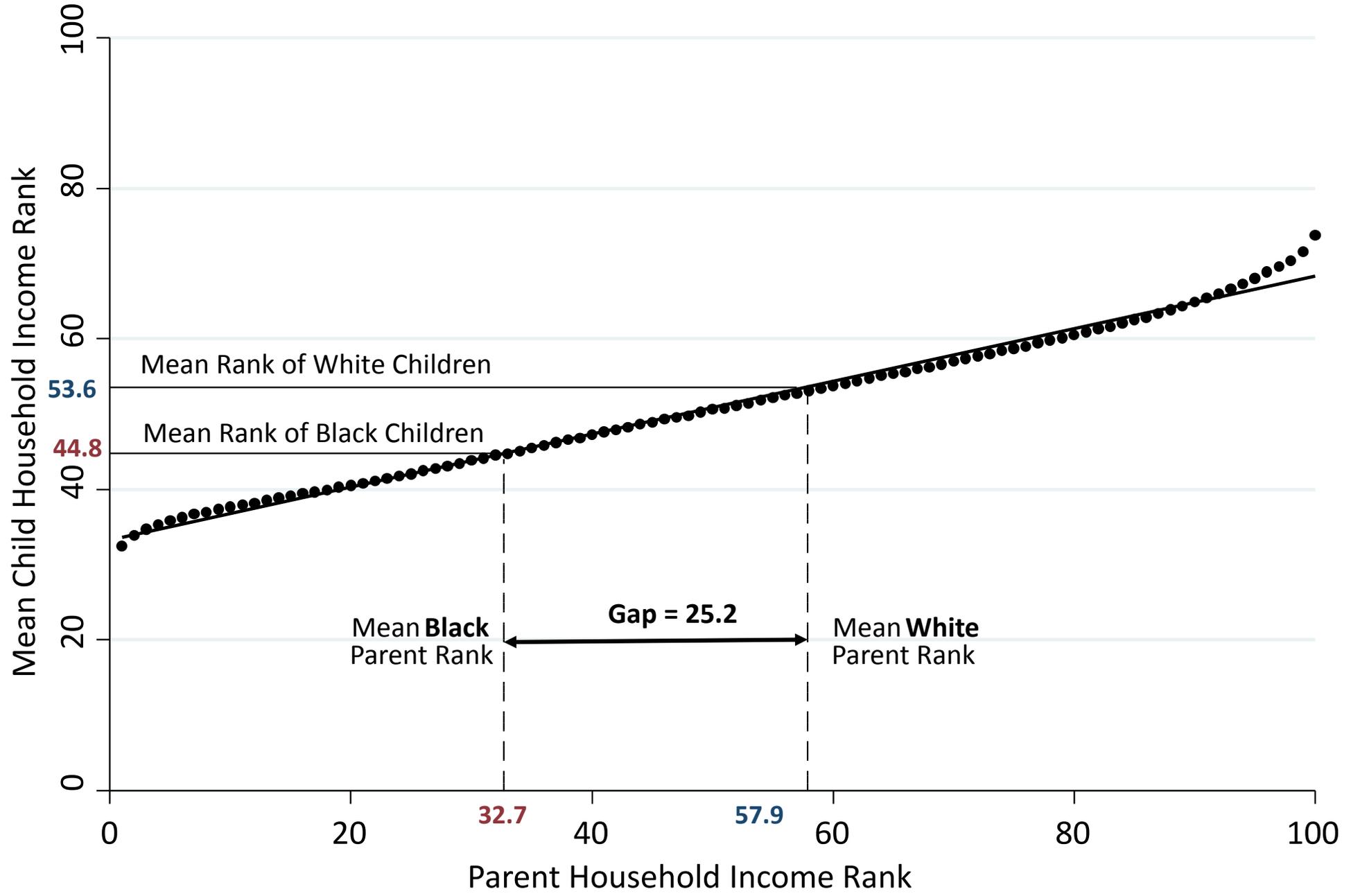
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



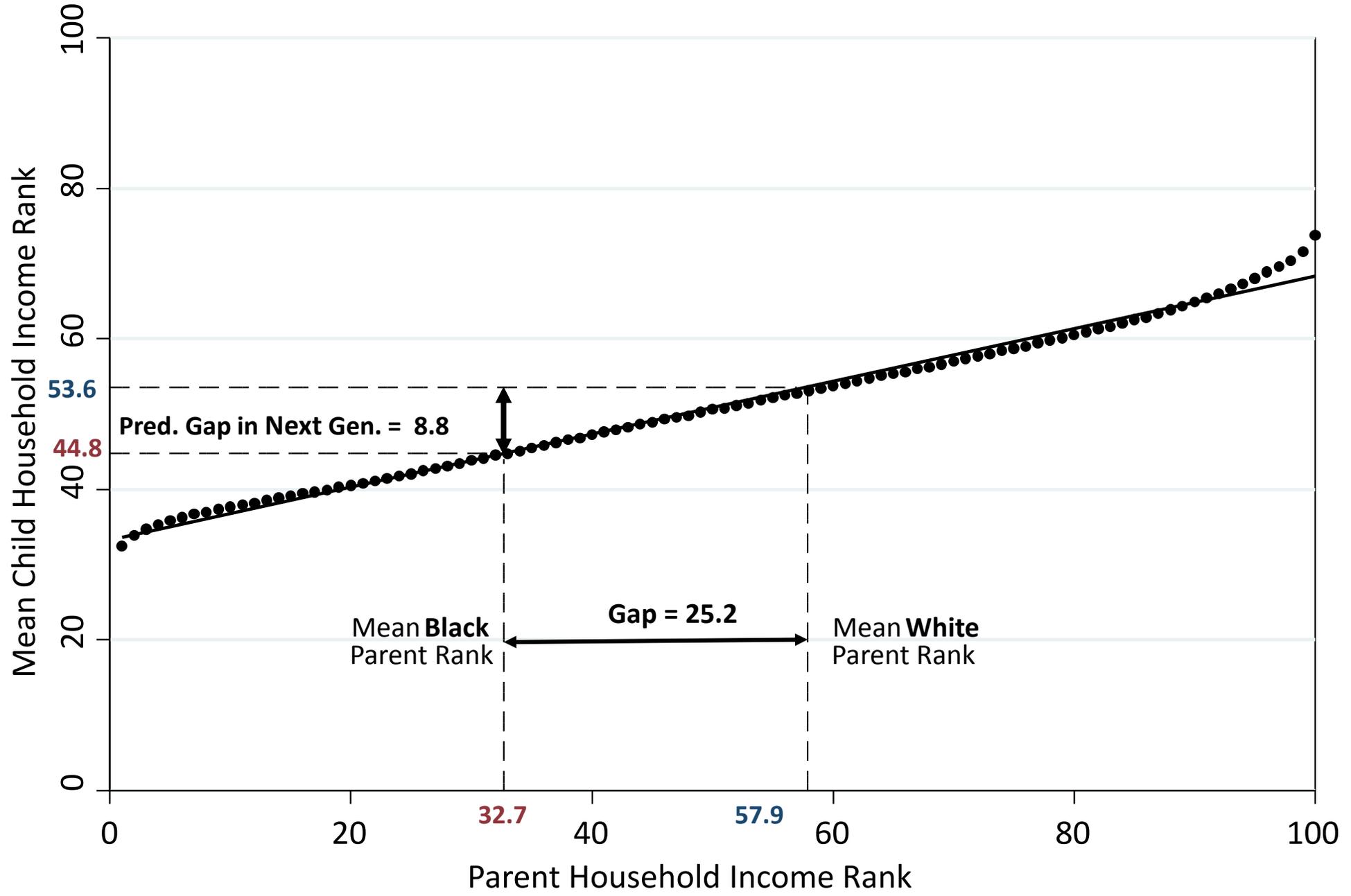
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



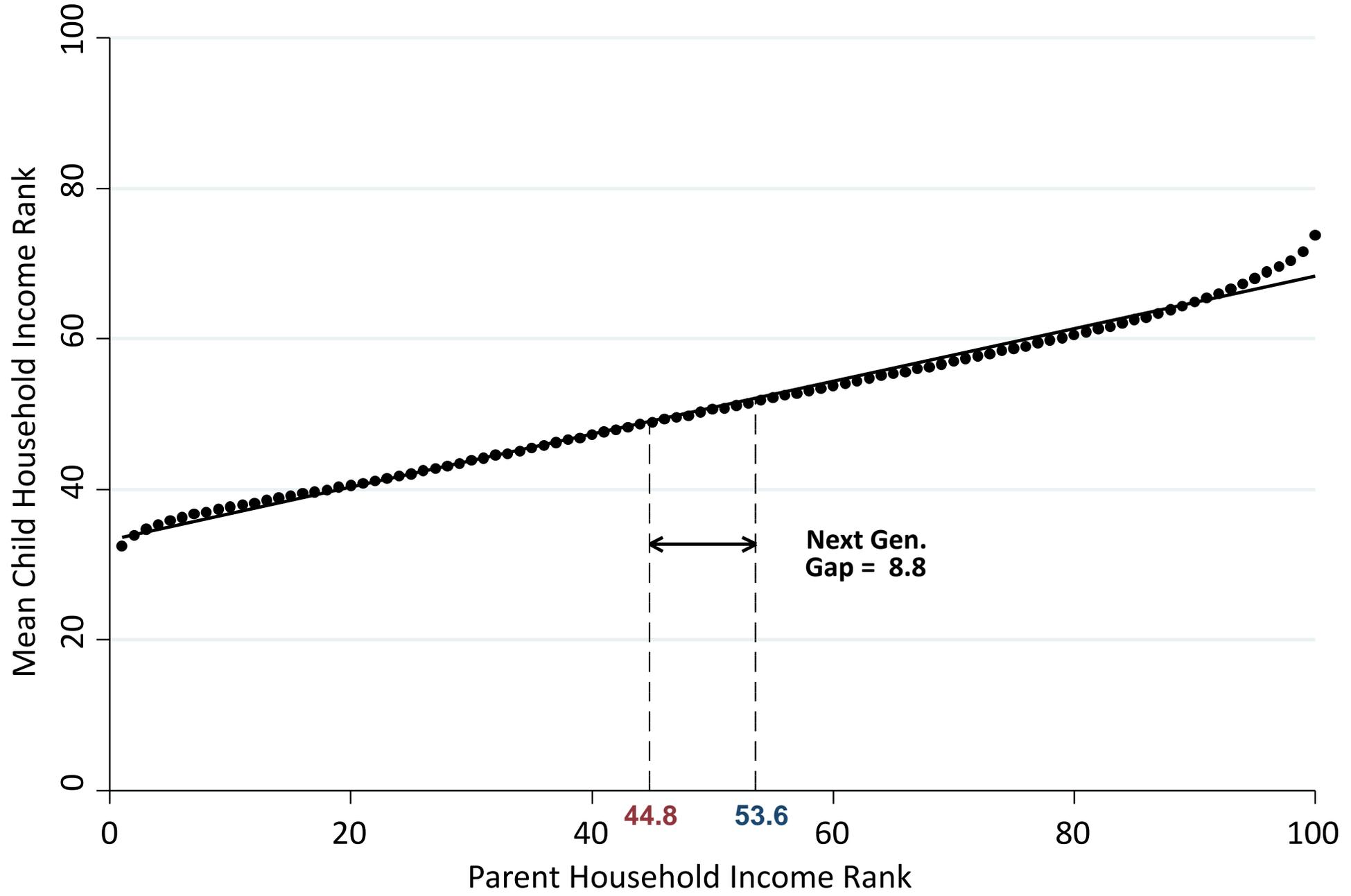
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



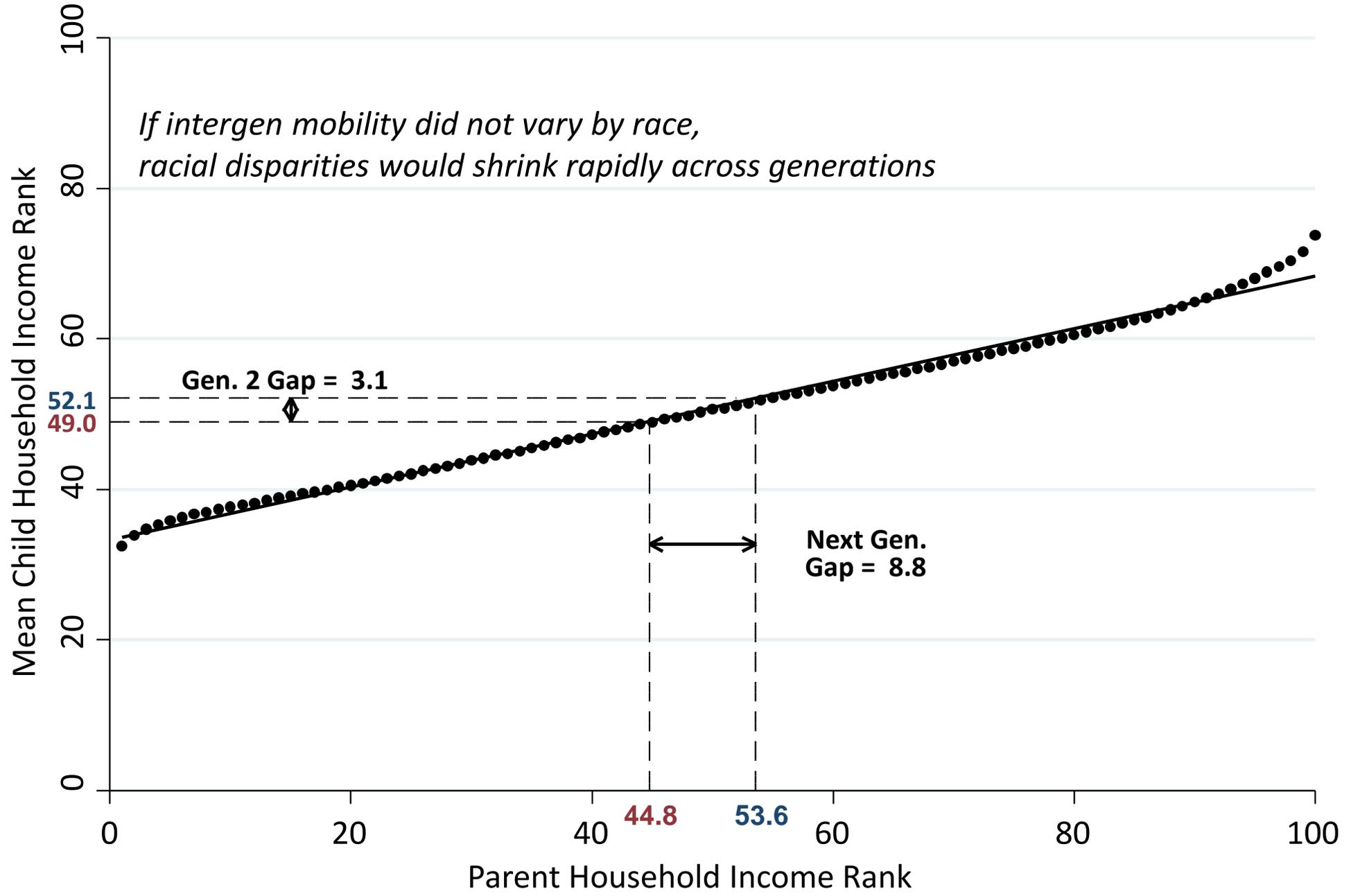
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



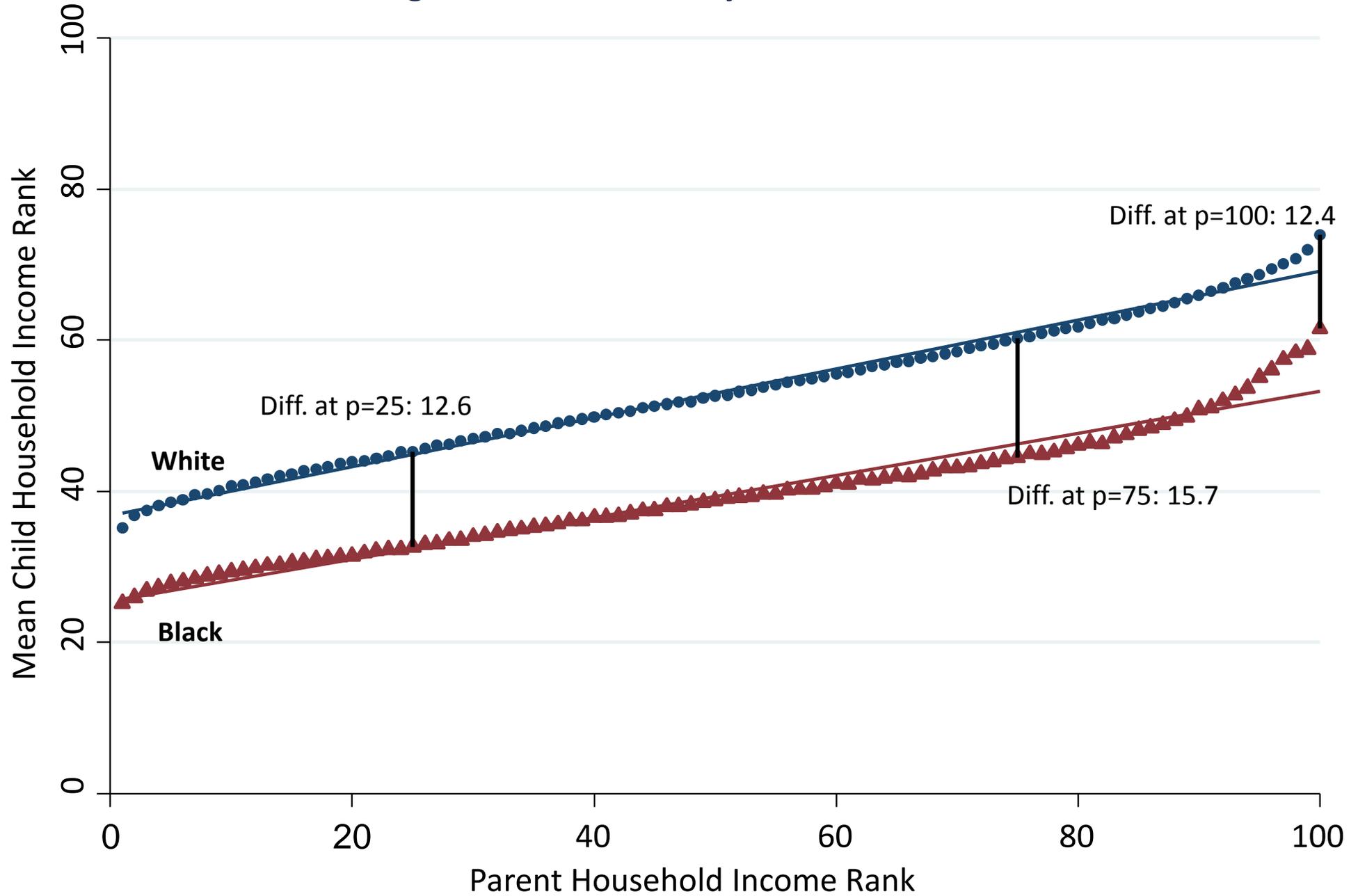
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



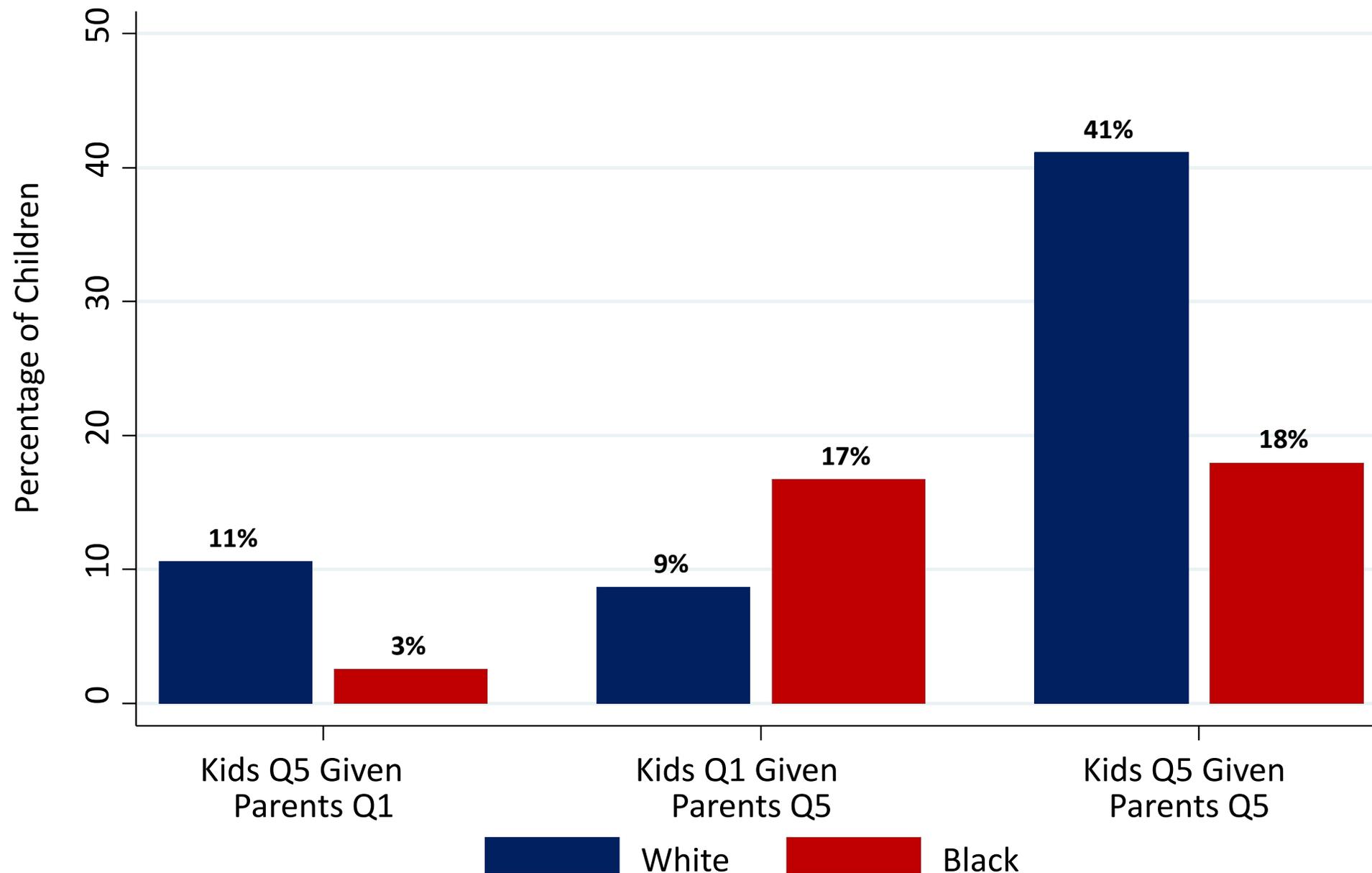
# Convergence in Black-White Gap if Intergenerational Mobility is Race-Invariant



# Intergenerational Mobility for Whites vs. Blacks

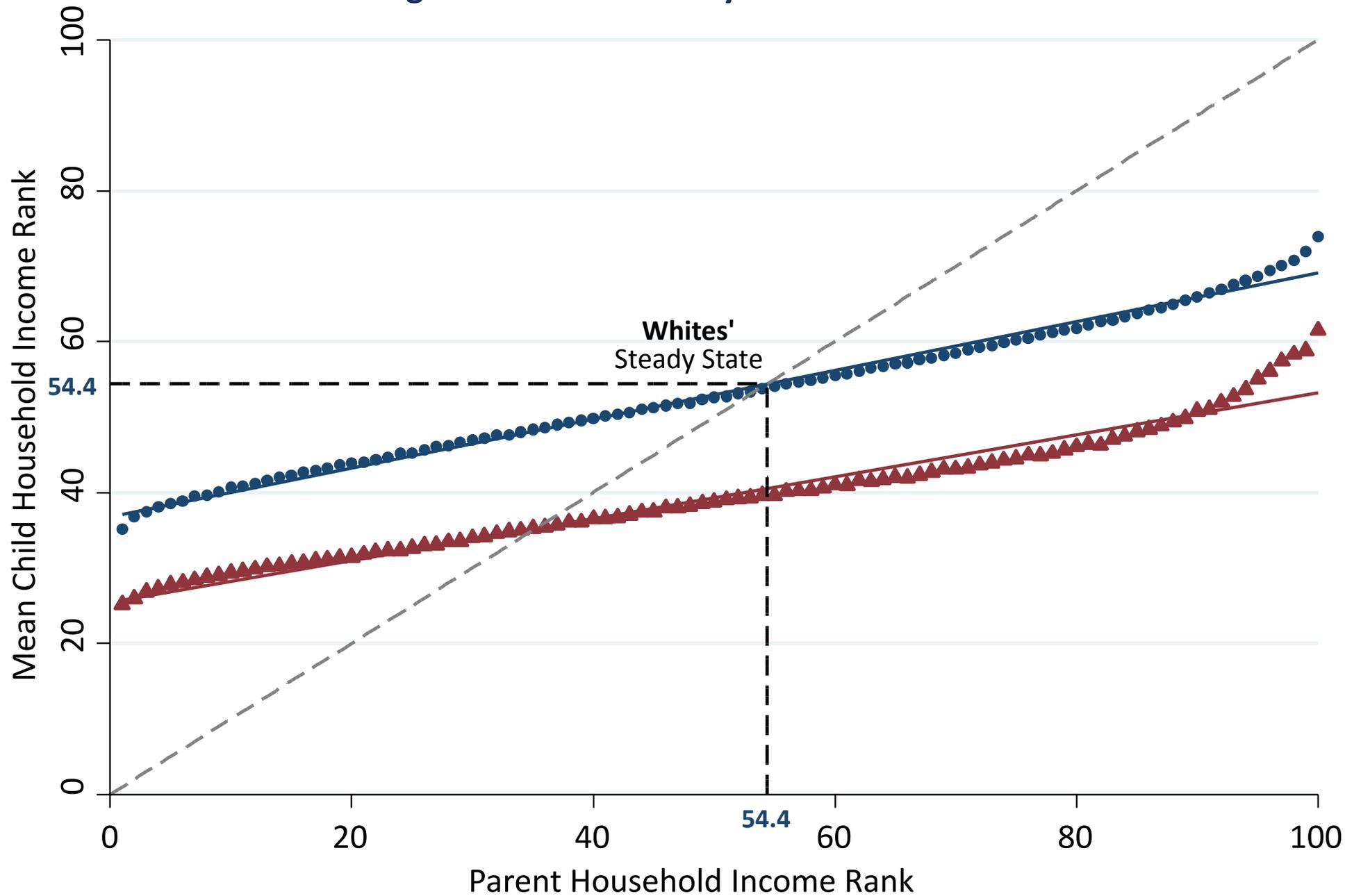


## Rates of Upward and Downward Mobility: Blacks vs. Whites

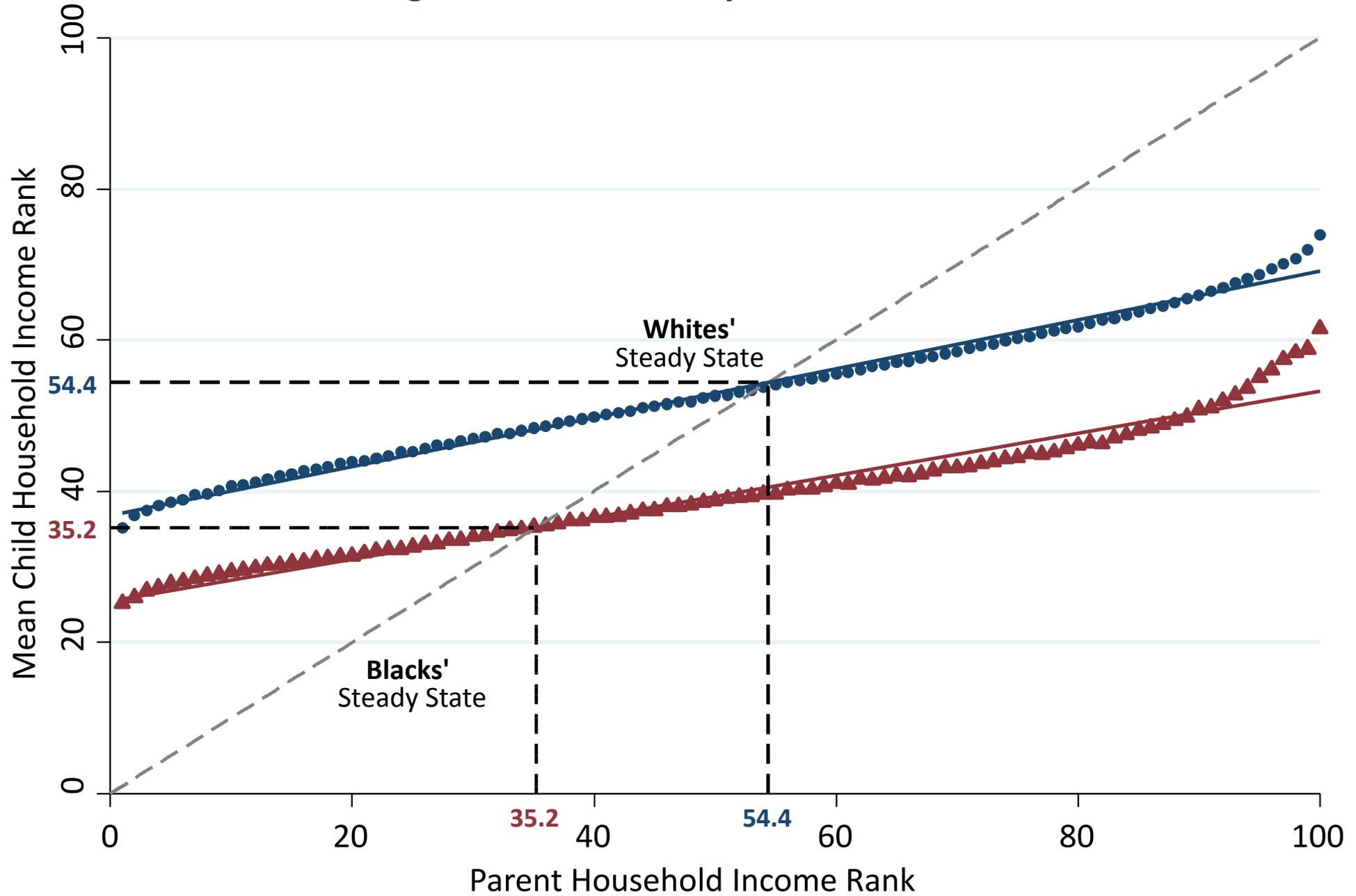


Click [here](#) to view an interactive depiction of these transition rates

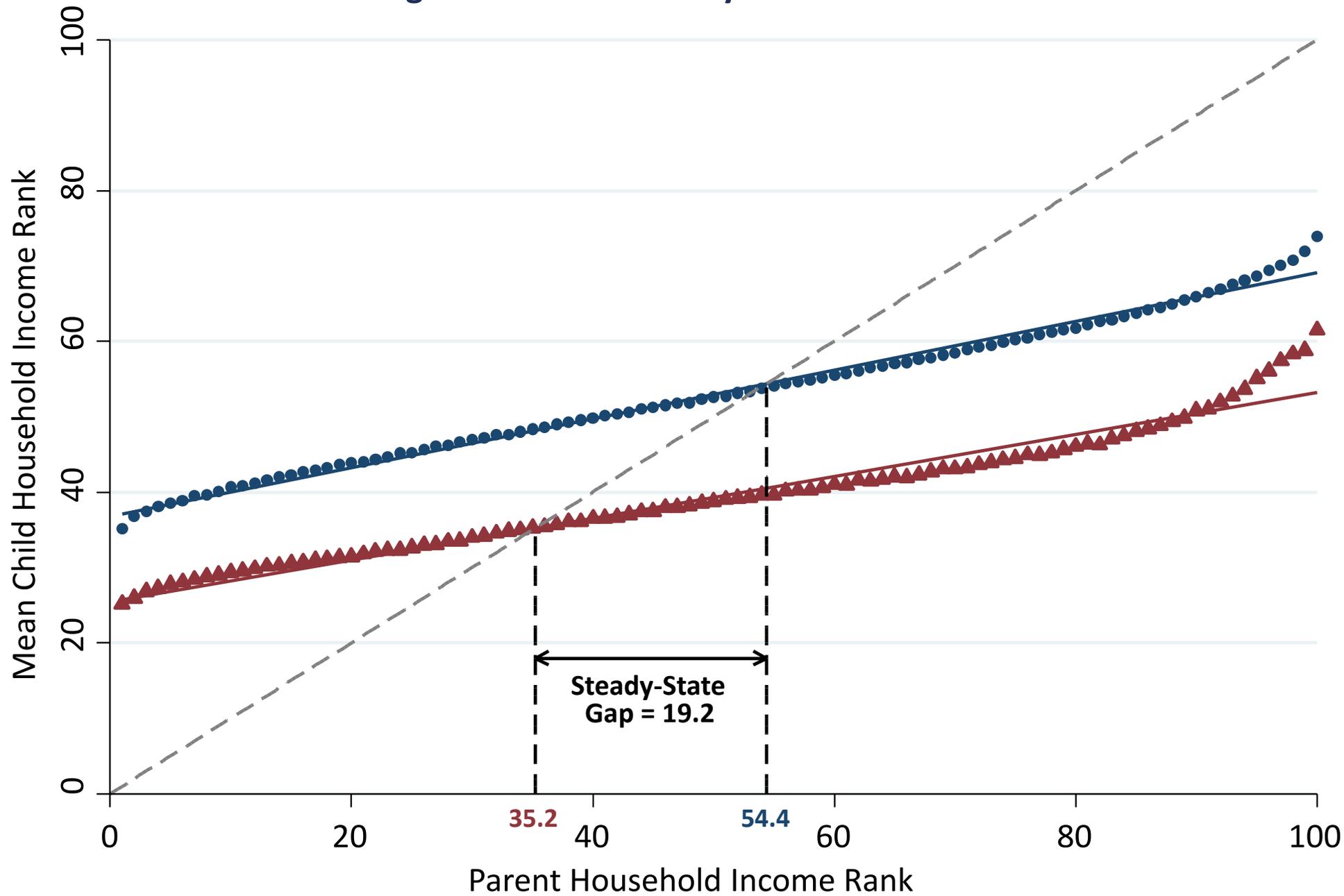
# Intergenerational Mobility for Whites vs. Blacks



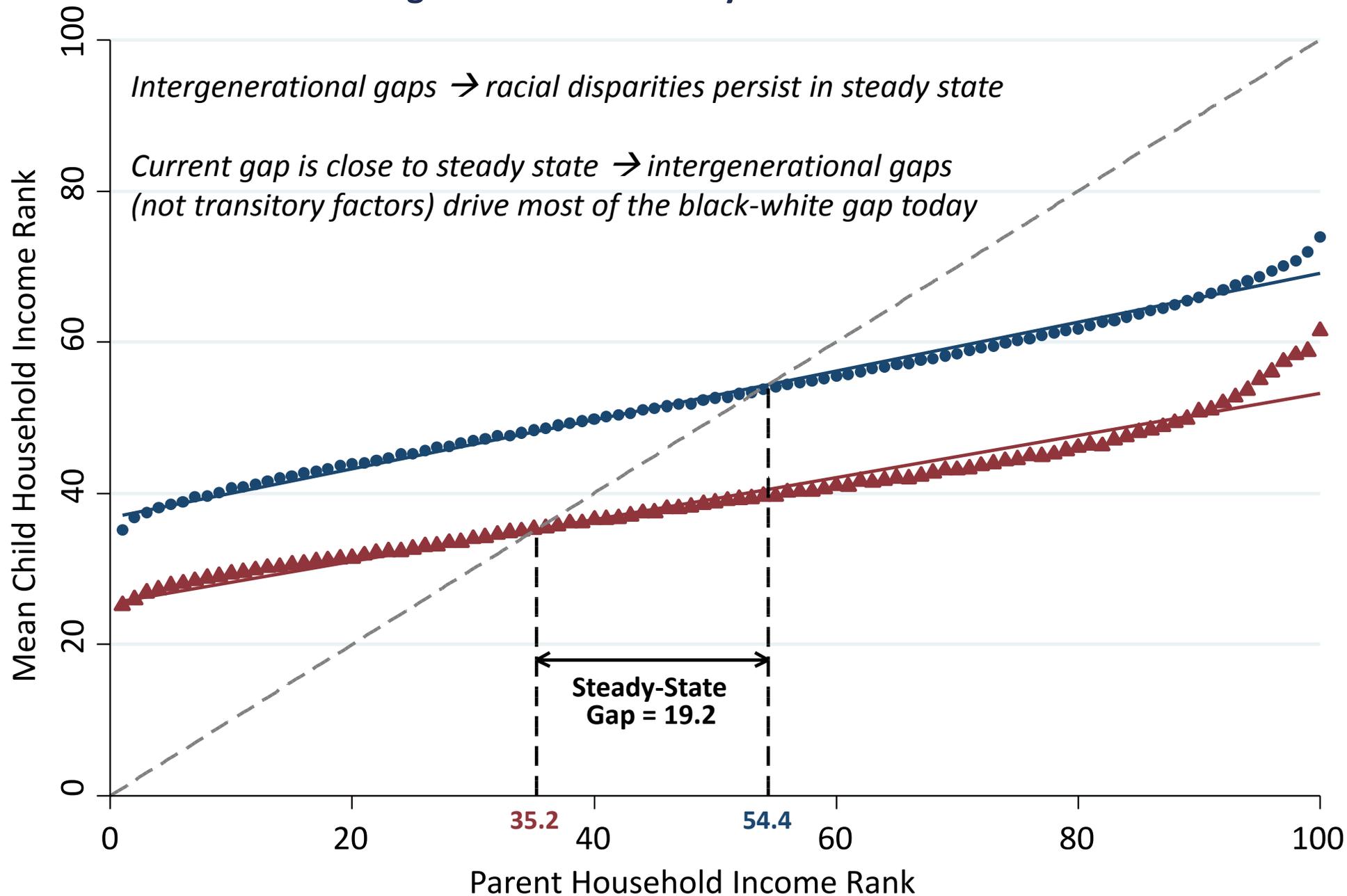
# Intergenerational Mobility for Whites vs. Blacks



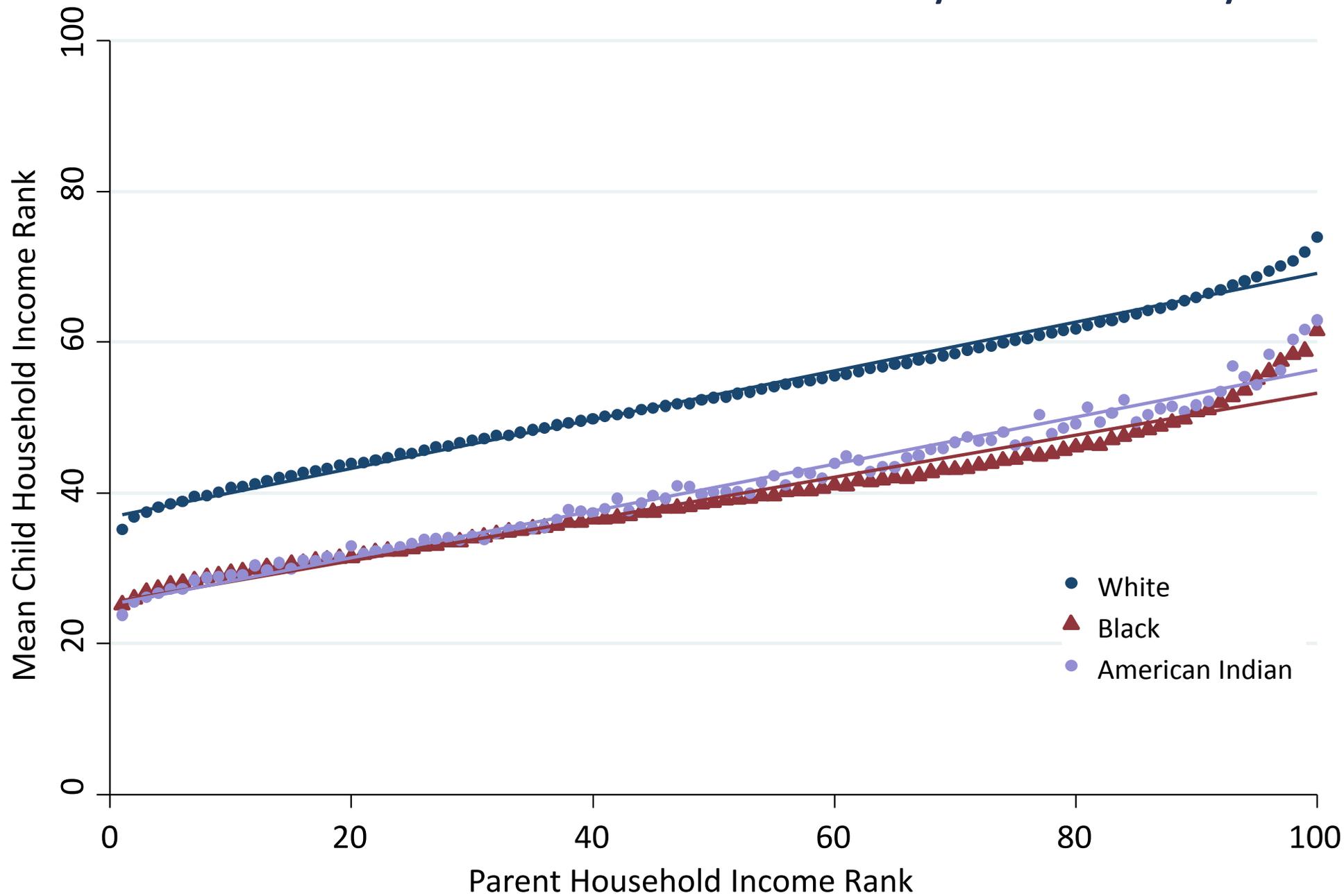
# Intergenerational Mobility for Whites vs. Blacks



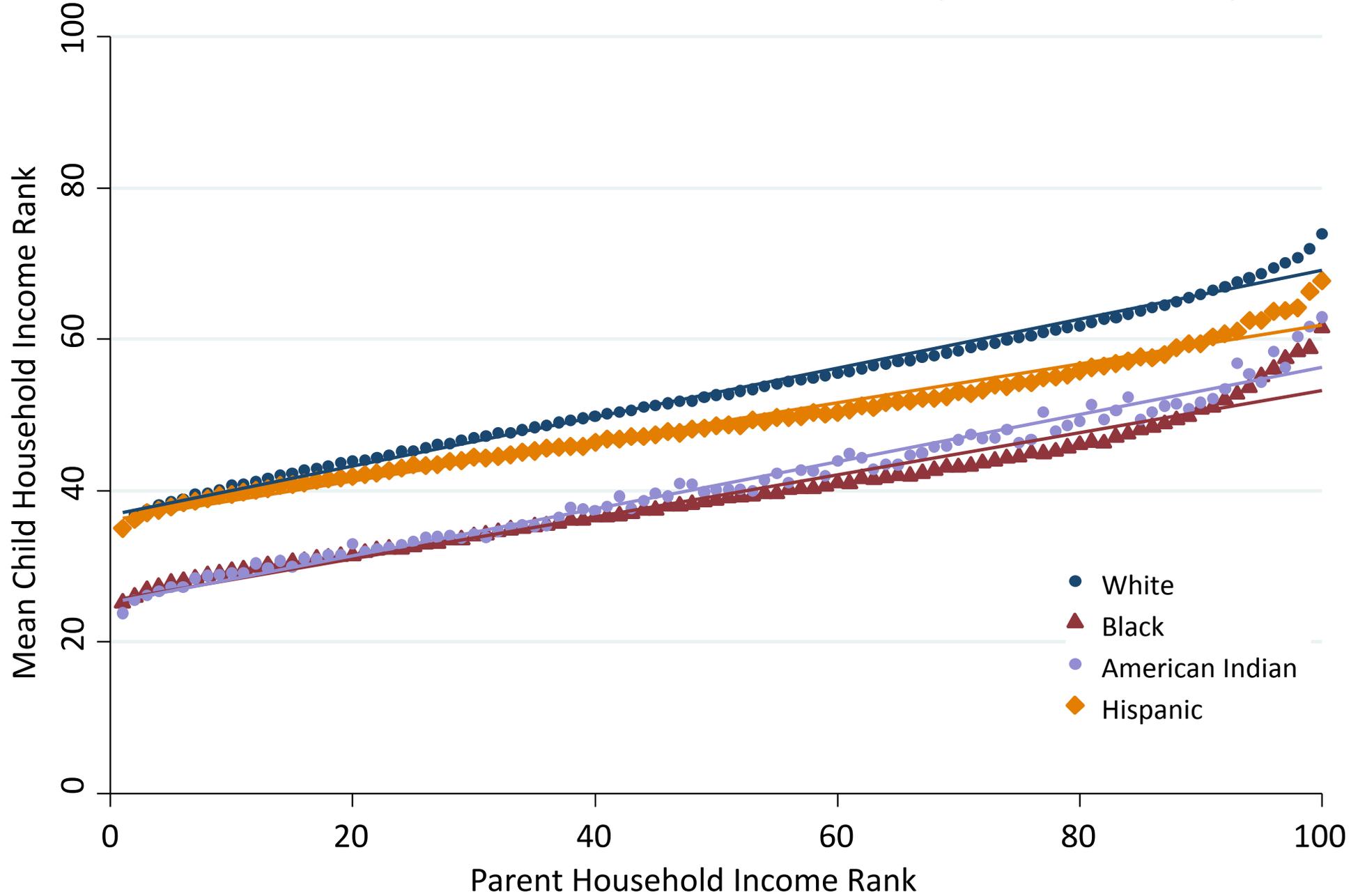
# Intergenerational Mobility for Whites vs. Blacks



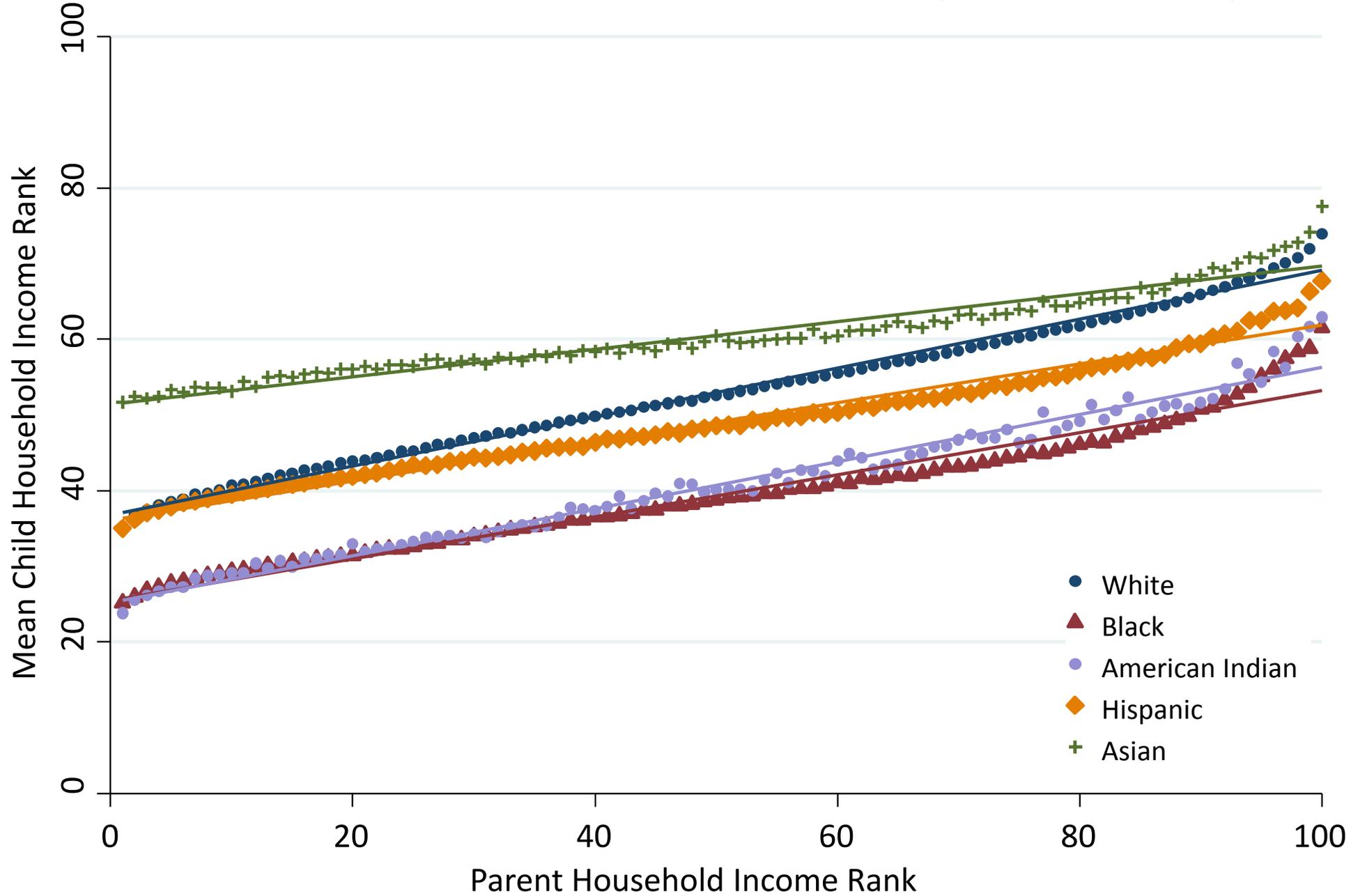
# Mean Child Income Rank vs. Parent Income Rank by Race and Ethnicity



# Mean Child Income Rank vs. Parent Income Rank by Race and Ethnicity

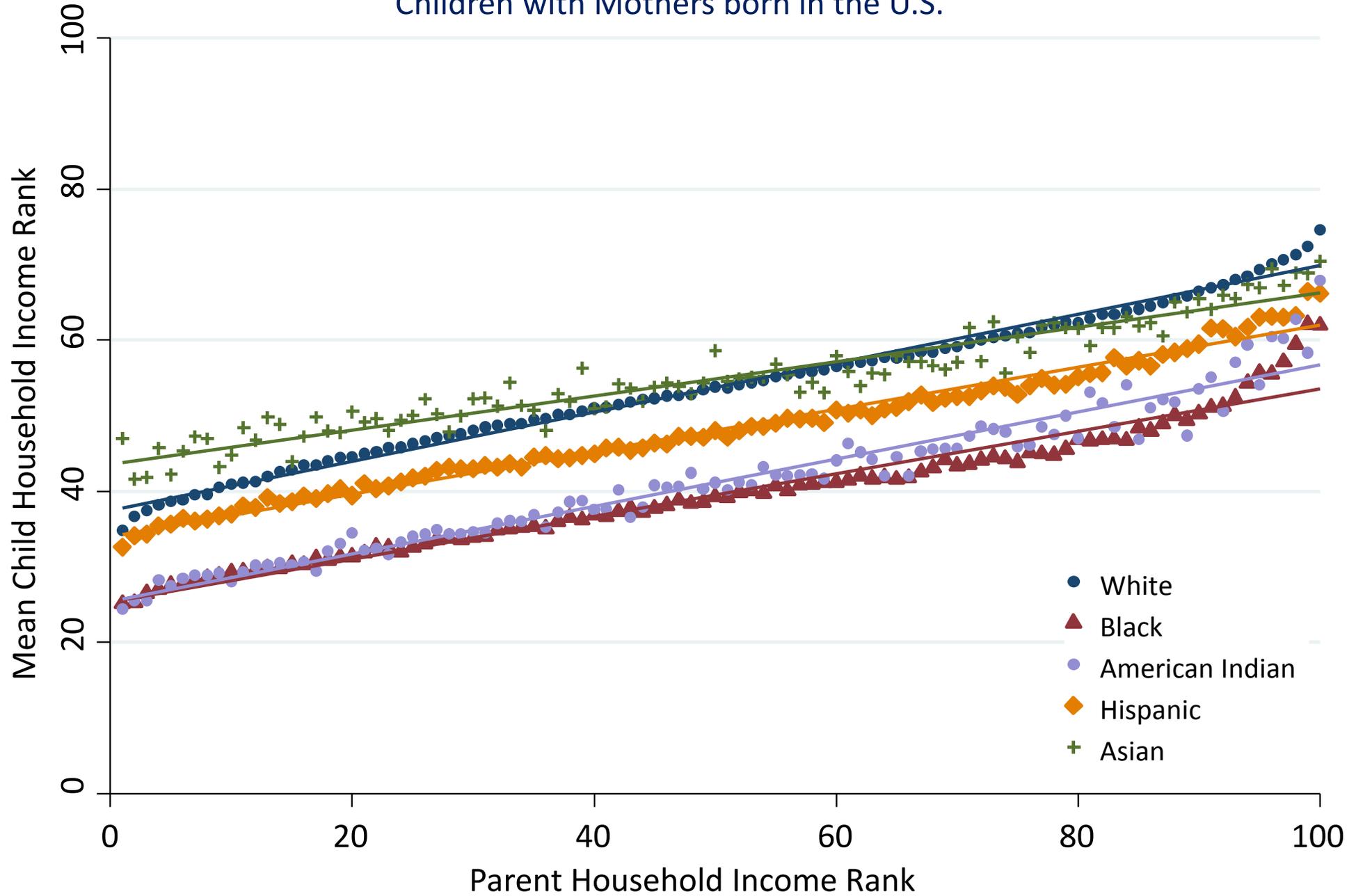


# Mean Child Income Rank vs. Parent Income Rank by Race and Ethnicity

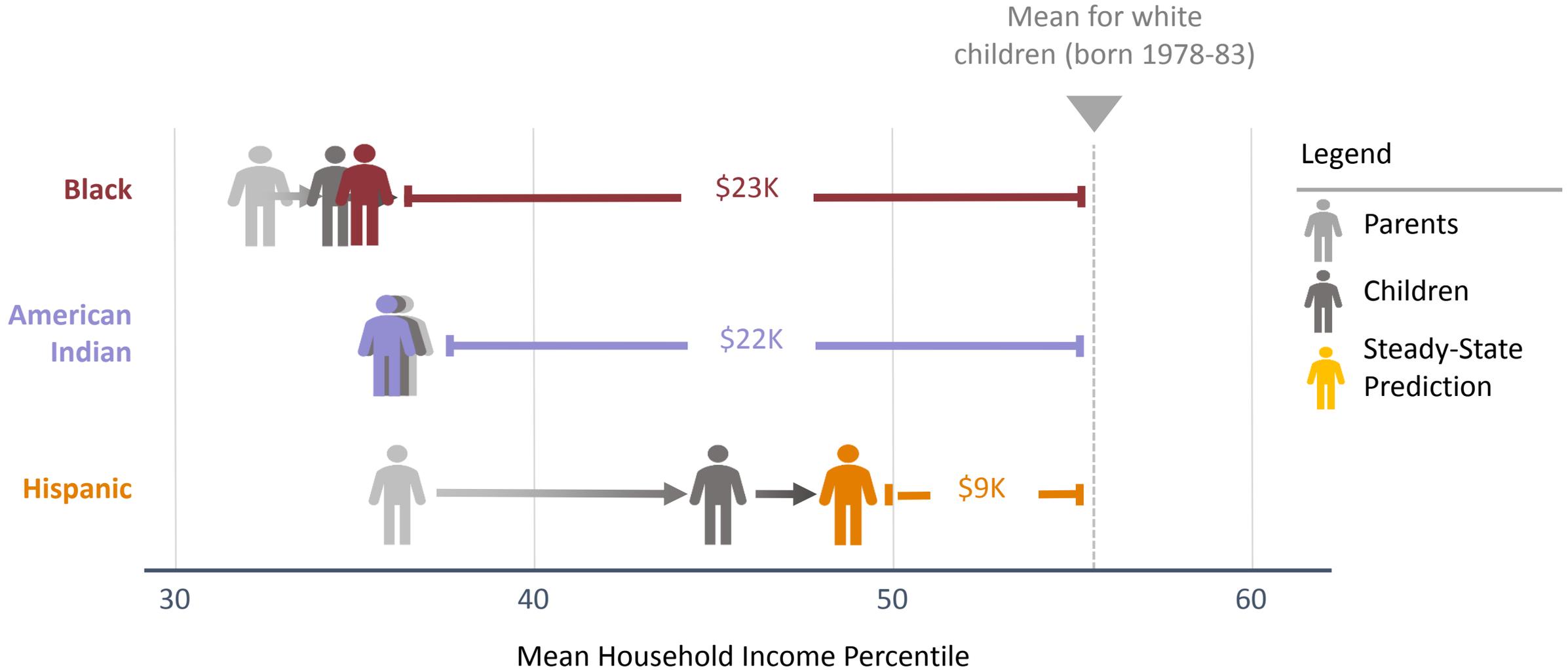


# Mean Child Income Rank vs. Parent Income Rank by Race and Ethnicity

Children with Mothers born in the U.S.



# Changes in Income Across Generations, by Racial Group



## Intergenerational Persistence of Racial Disparities: Summary

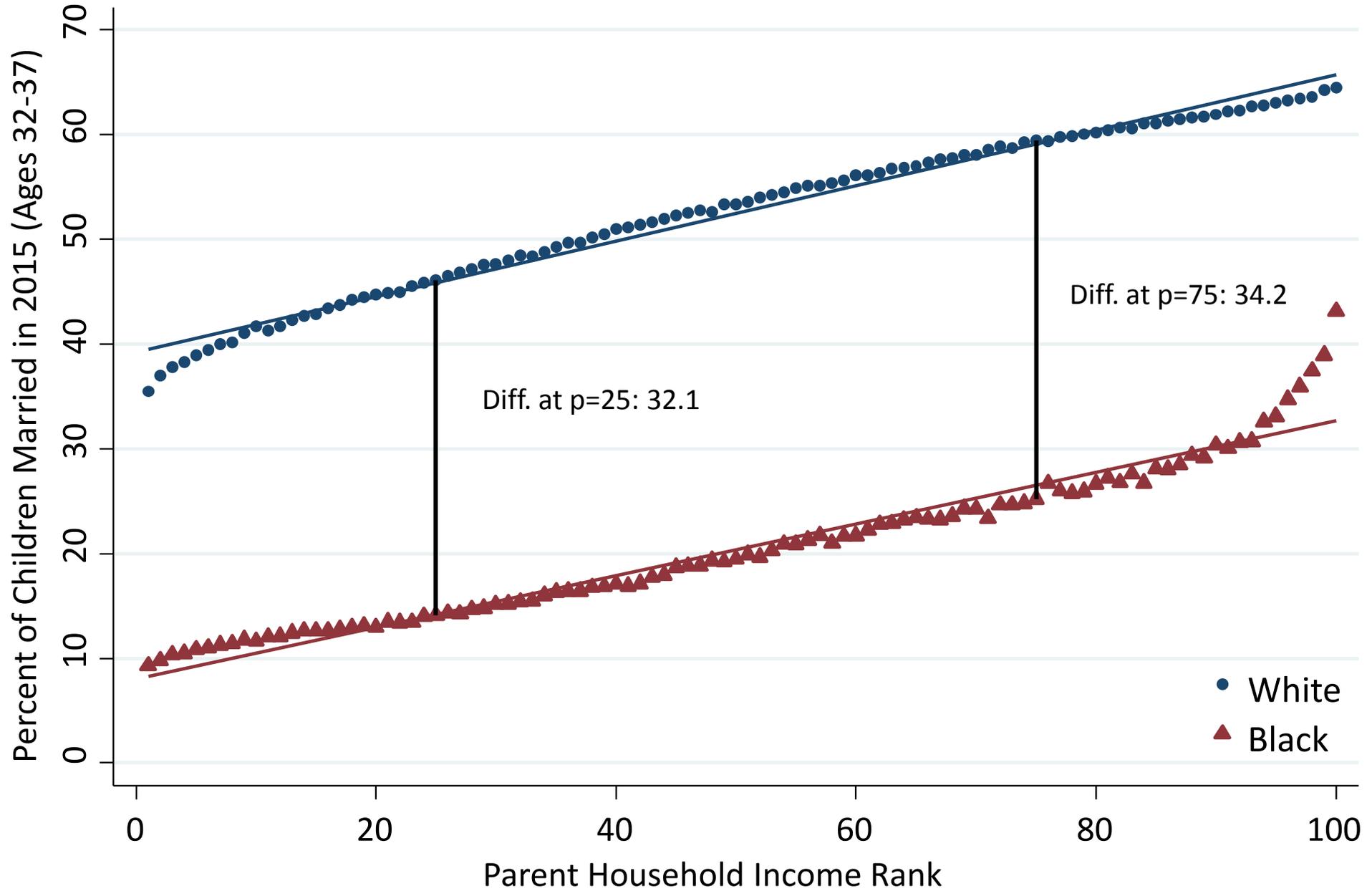
- All racial groups in the U.S. have similar rates of *relative* mobility → will converge rapidly to steady state
- Key driver of disparities is therefore intergenerational gap in absolute mobility, e.g. between blacks and whites
  - Why do black children have lower incomes than white children *conditional* on parent income?
- Rest of the talk: test a range of explanations for black-white intergenerational gaps

- 1 Data and Sample Definitions 
- 2 Intergenerational Mobility by Race 
- 3 Marriage Rates and Gender Differences** 
- 4 Family Level Explanations 
- 5 Neighborhood Level Explanations 

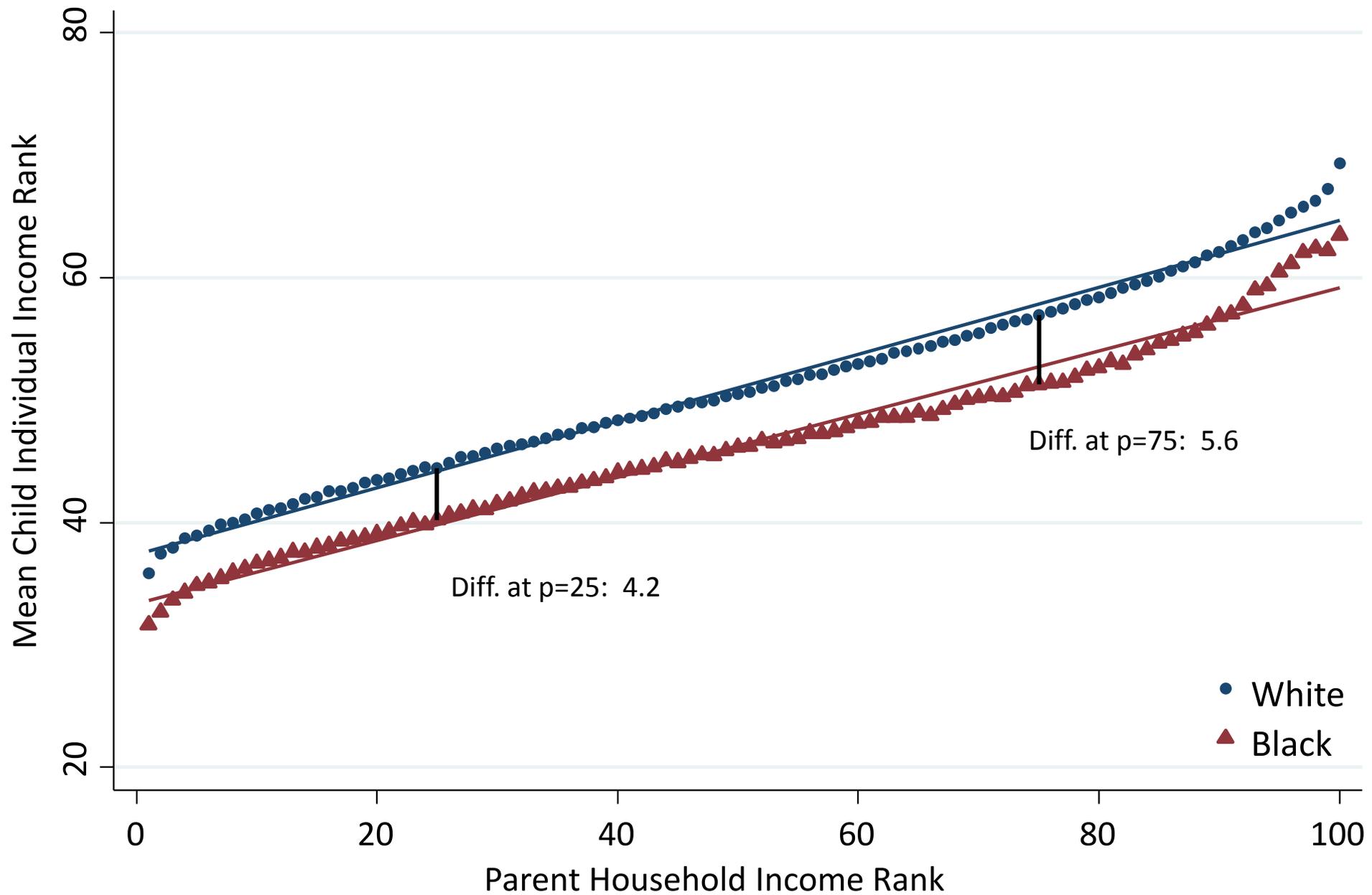
## Mechanical Effects of Household Size

- Well-known that blacks marry at much lower rates than whites
- Do differences in marriage rates create mechanical differences between the household incomes of blacks and whites?
- Examine marriage rates and children's *individual* incomes by parental income

# Marriage Rates vs. Parent Income, Blacks vs. Whites

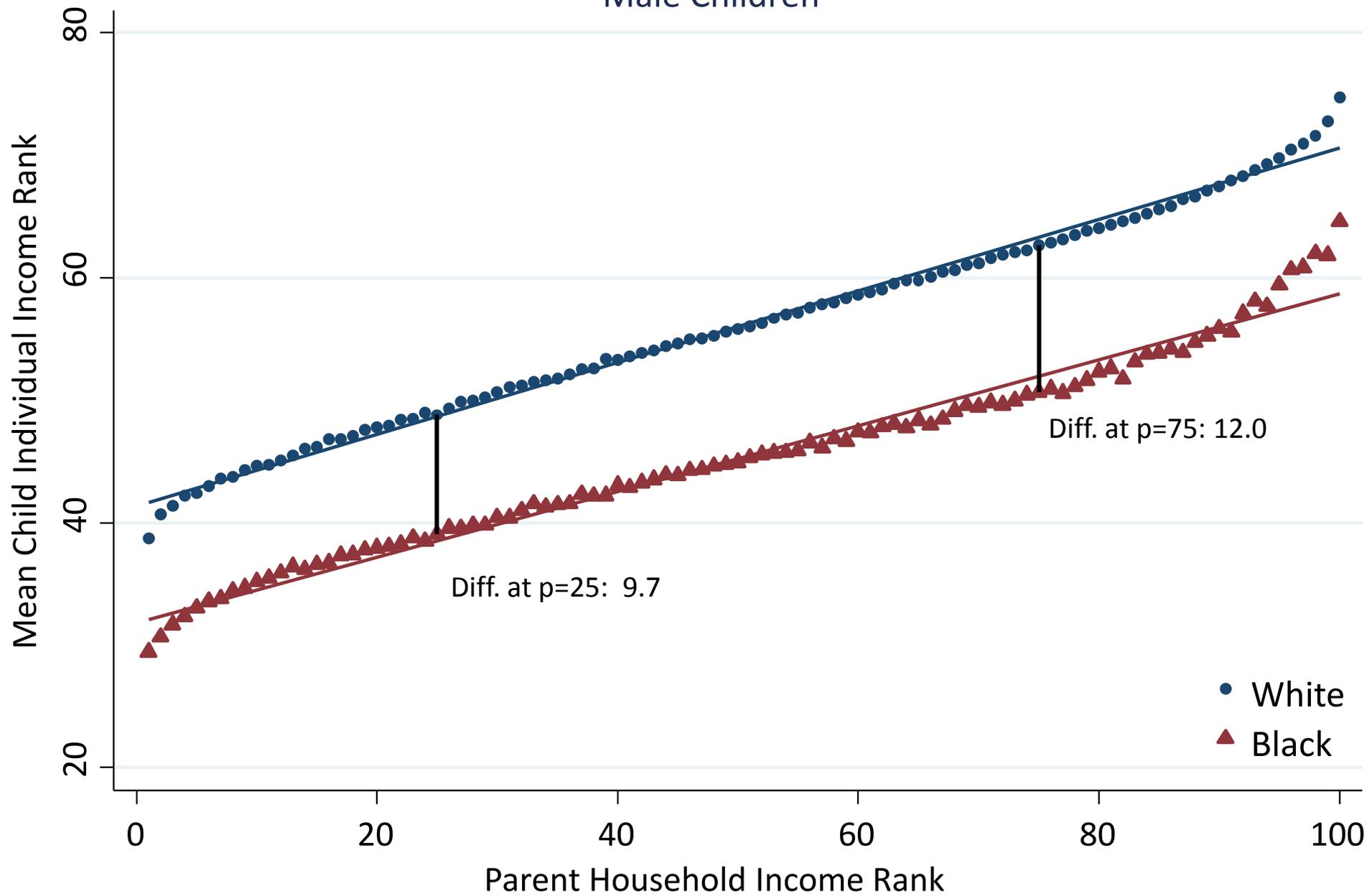


# Black-White Gap in Child Individual Income Rank vs. Parent Income Rank



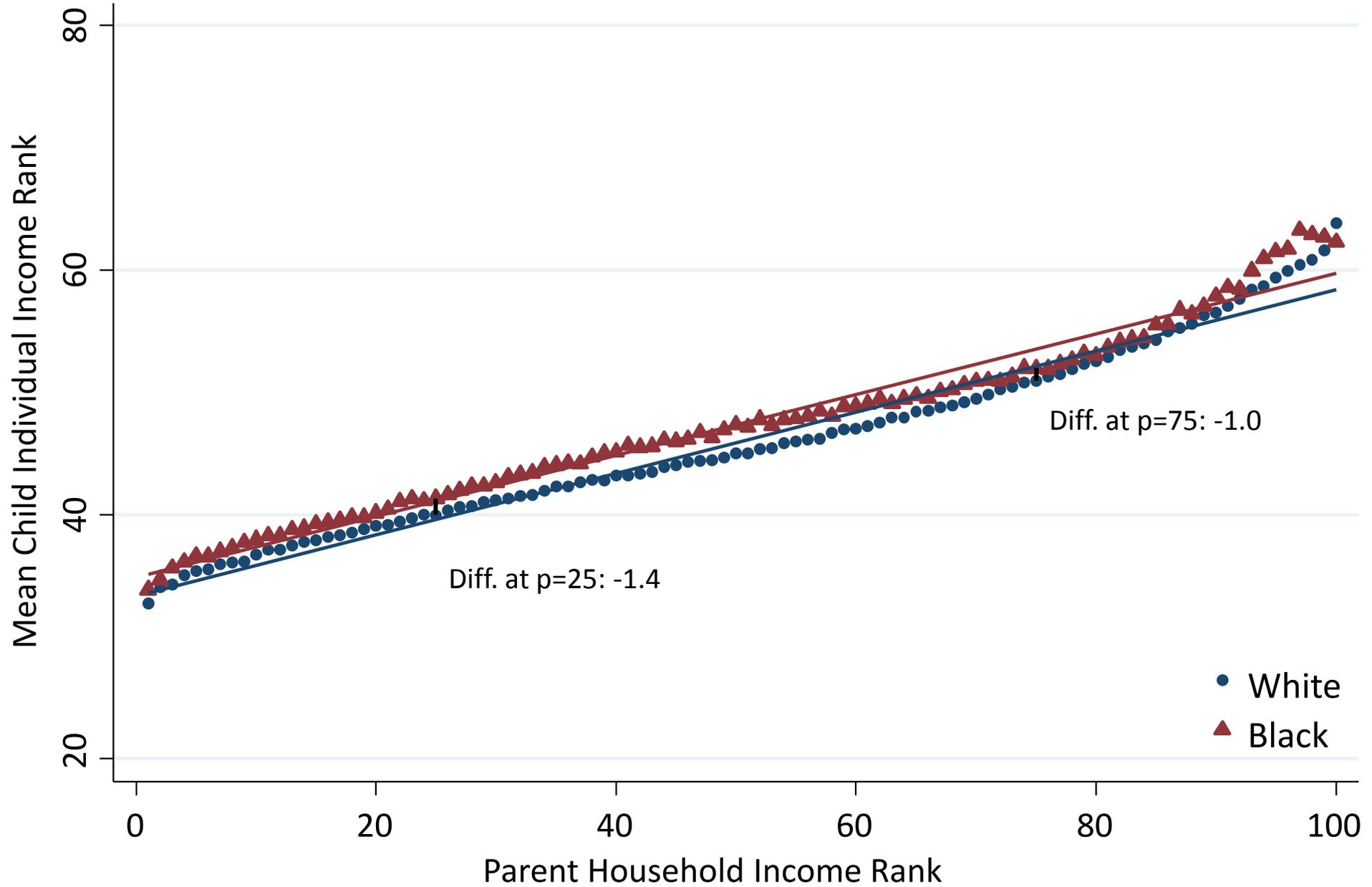
# Black-White Gap in Child Individual Income Rank vs. Parent Income Rank

Male Children



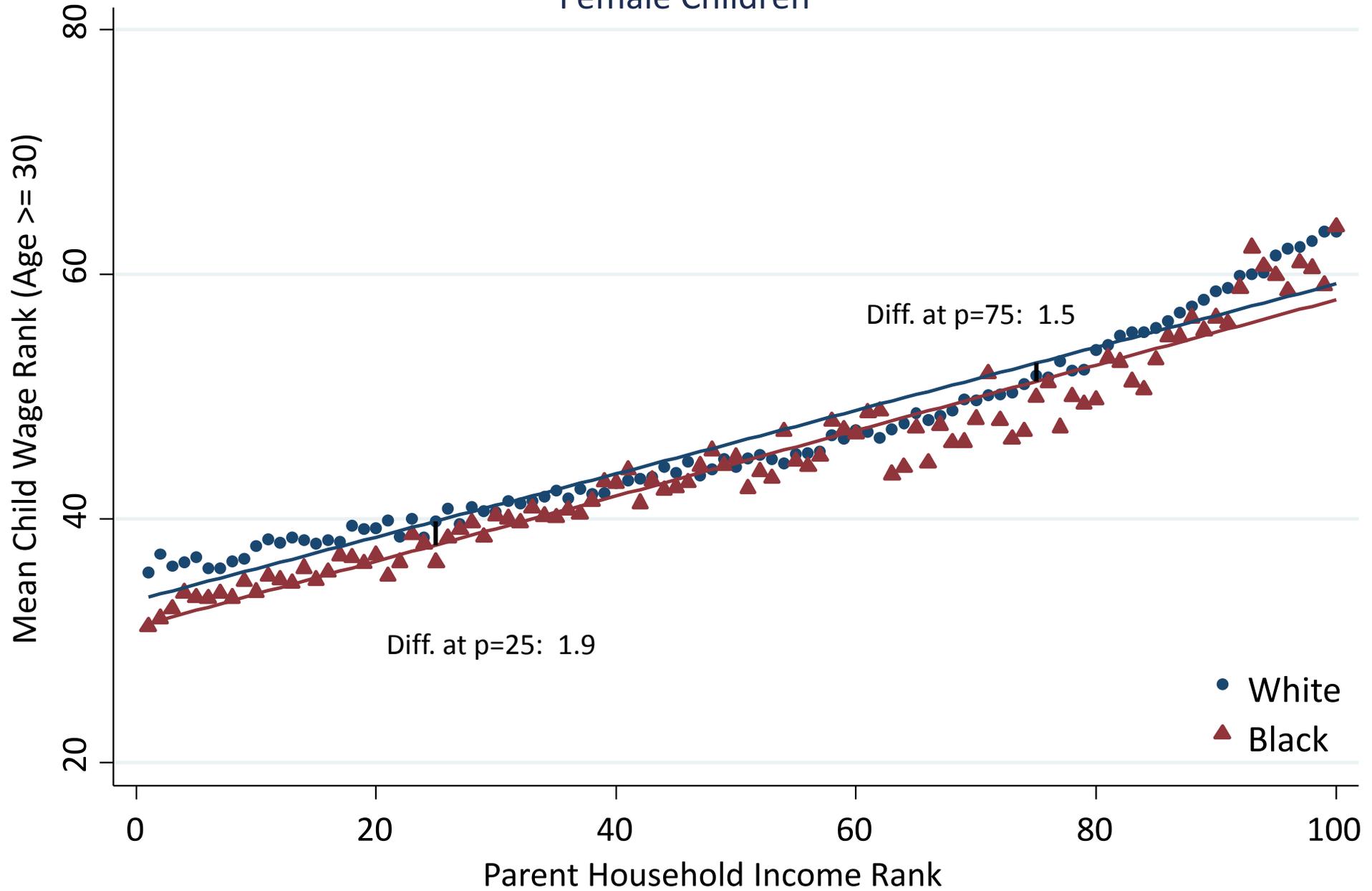
# Black-White Gap in Child Individual Income Rank vs. Parent Income Rank

Female Children



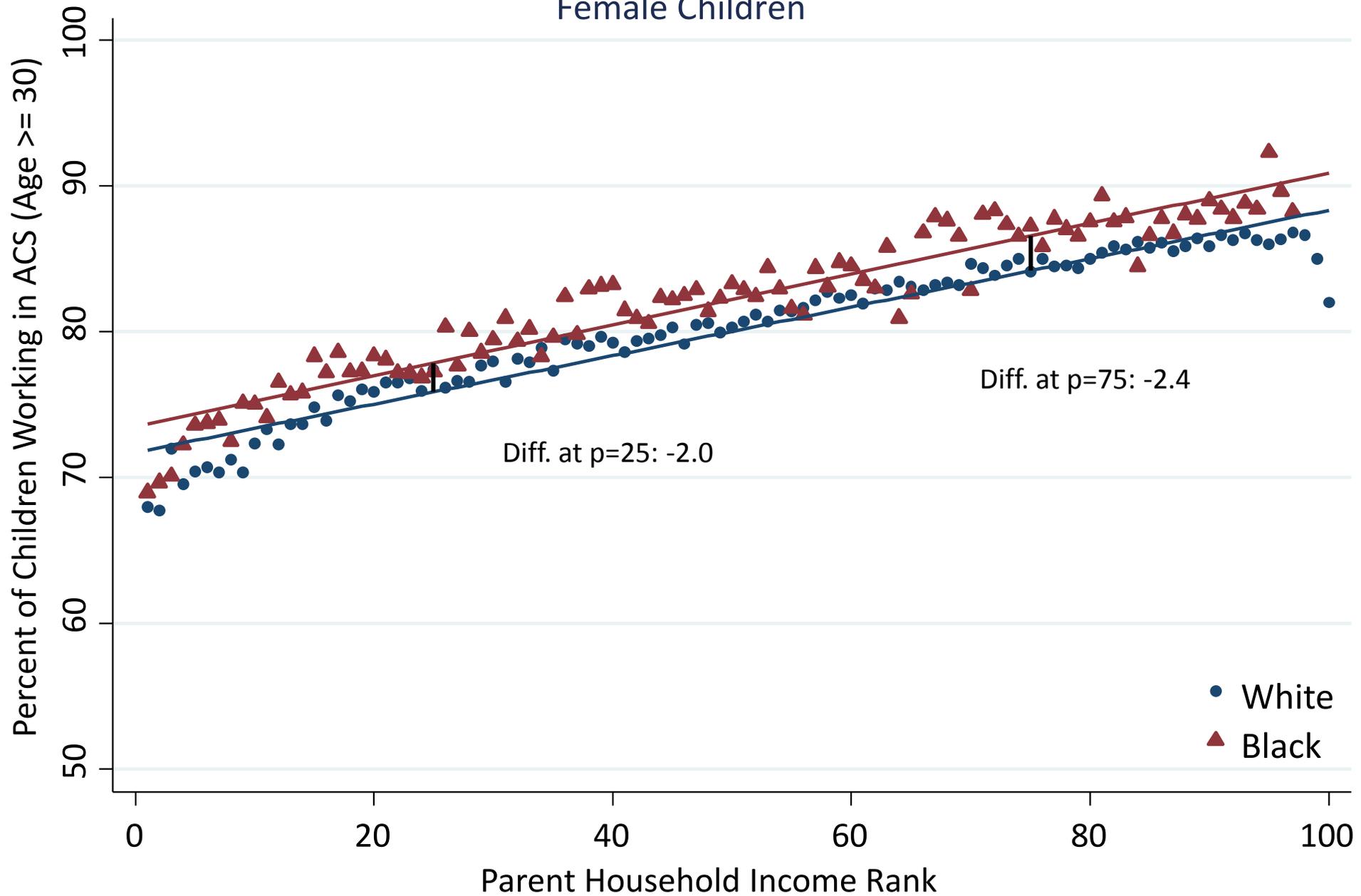
# Hourly Wage Rates vs. Parent Income

## Female Children



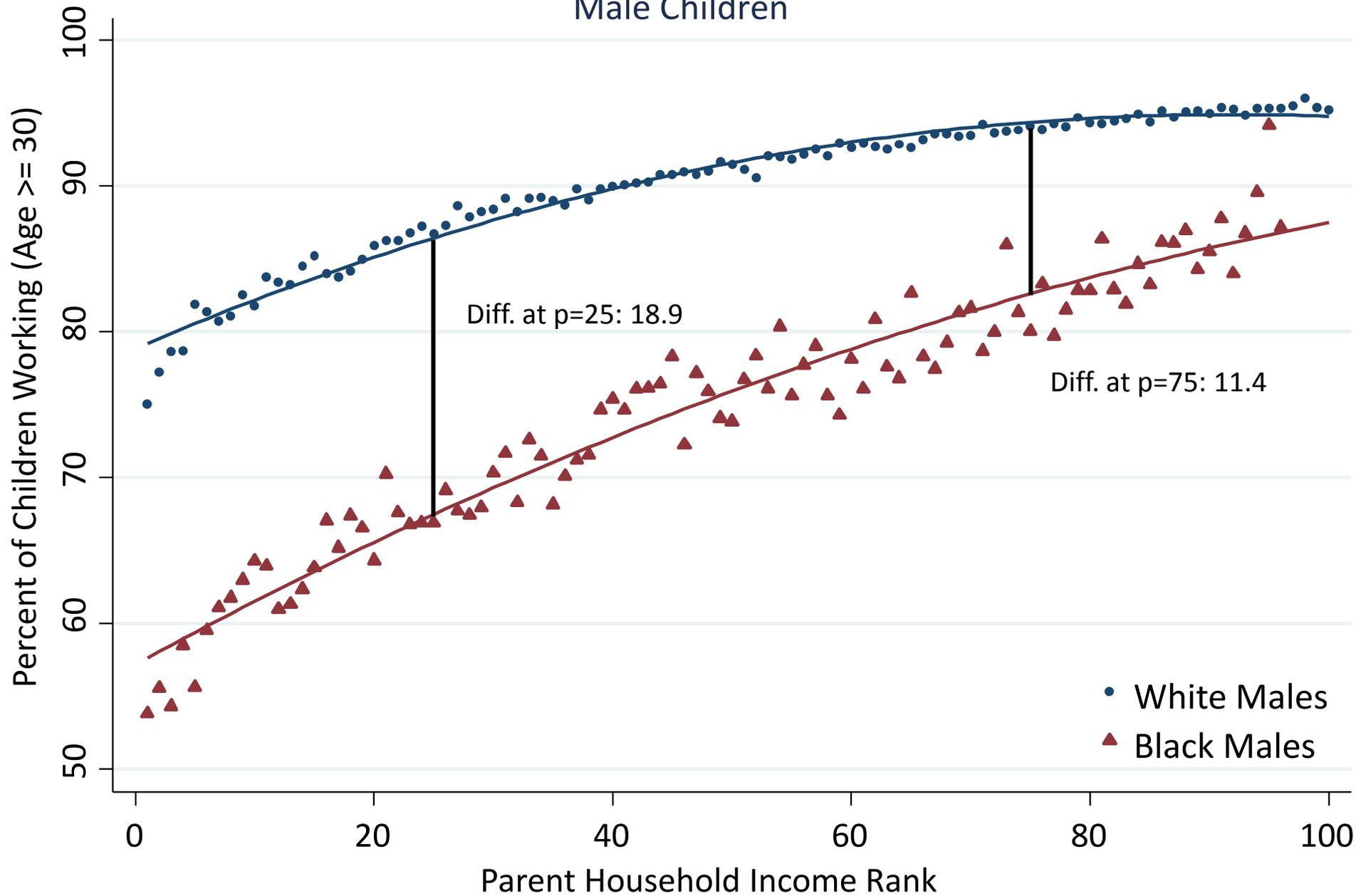
# Employment Rates vs. Parent Income Rank

## Female Children

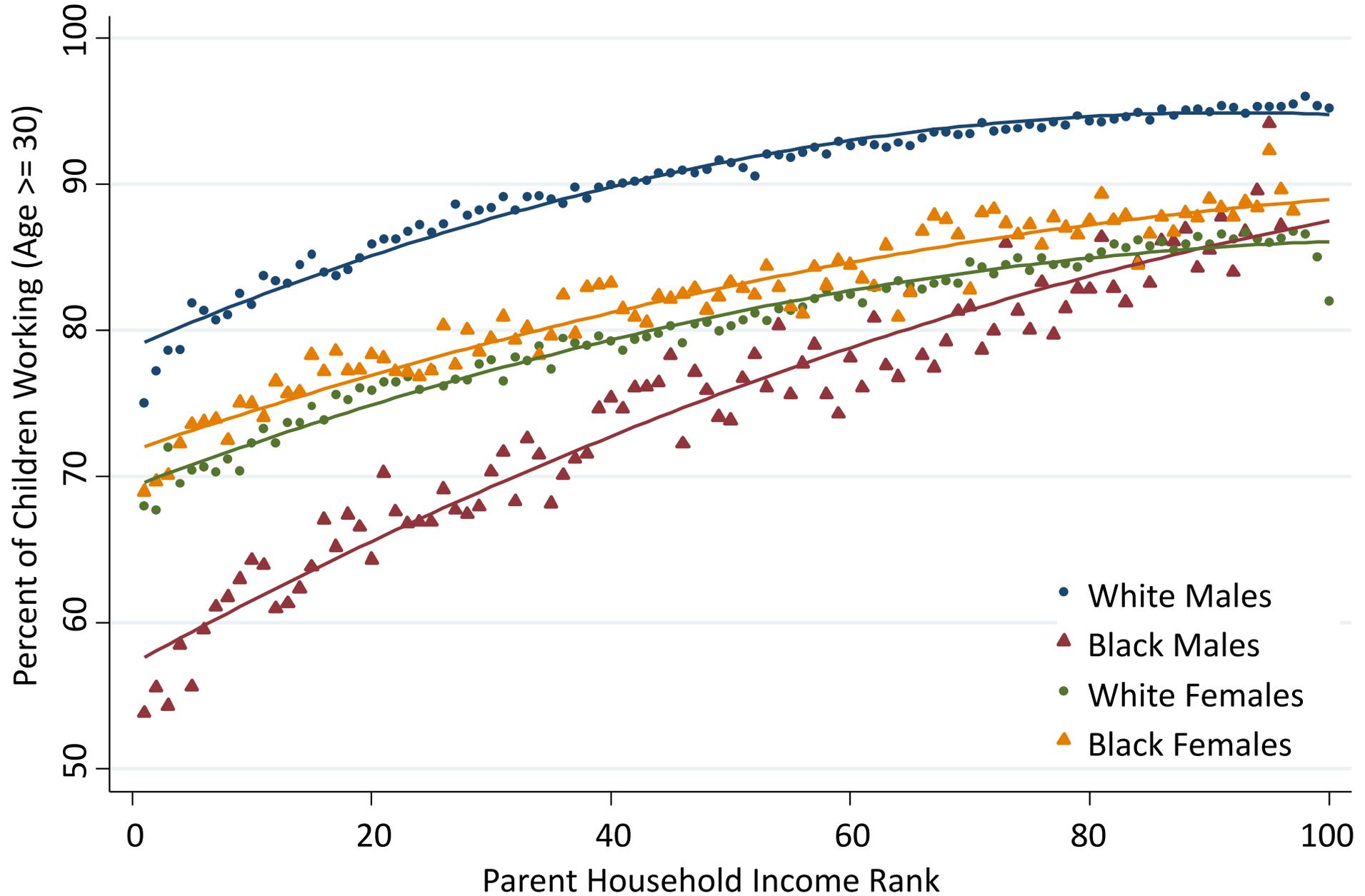


# Employment Rates vs. Parent Income Rank

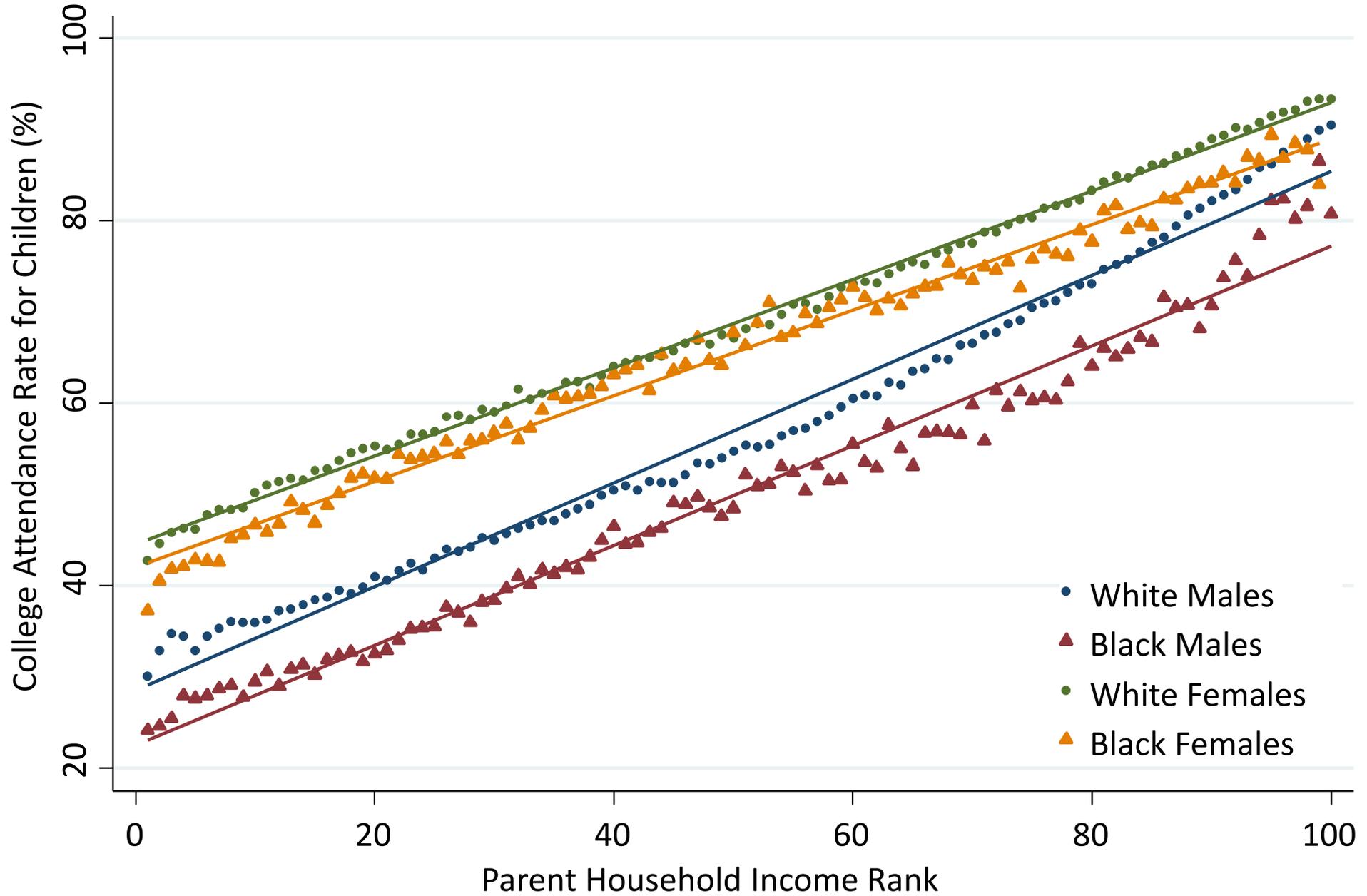
## Male Children



# Employment Rates vs. Parent Income Rank

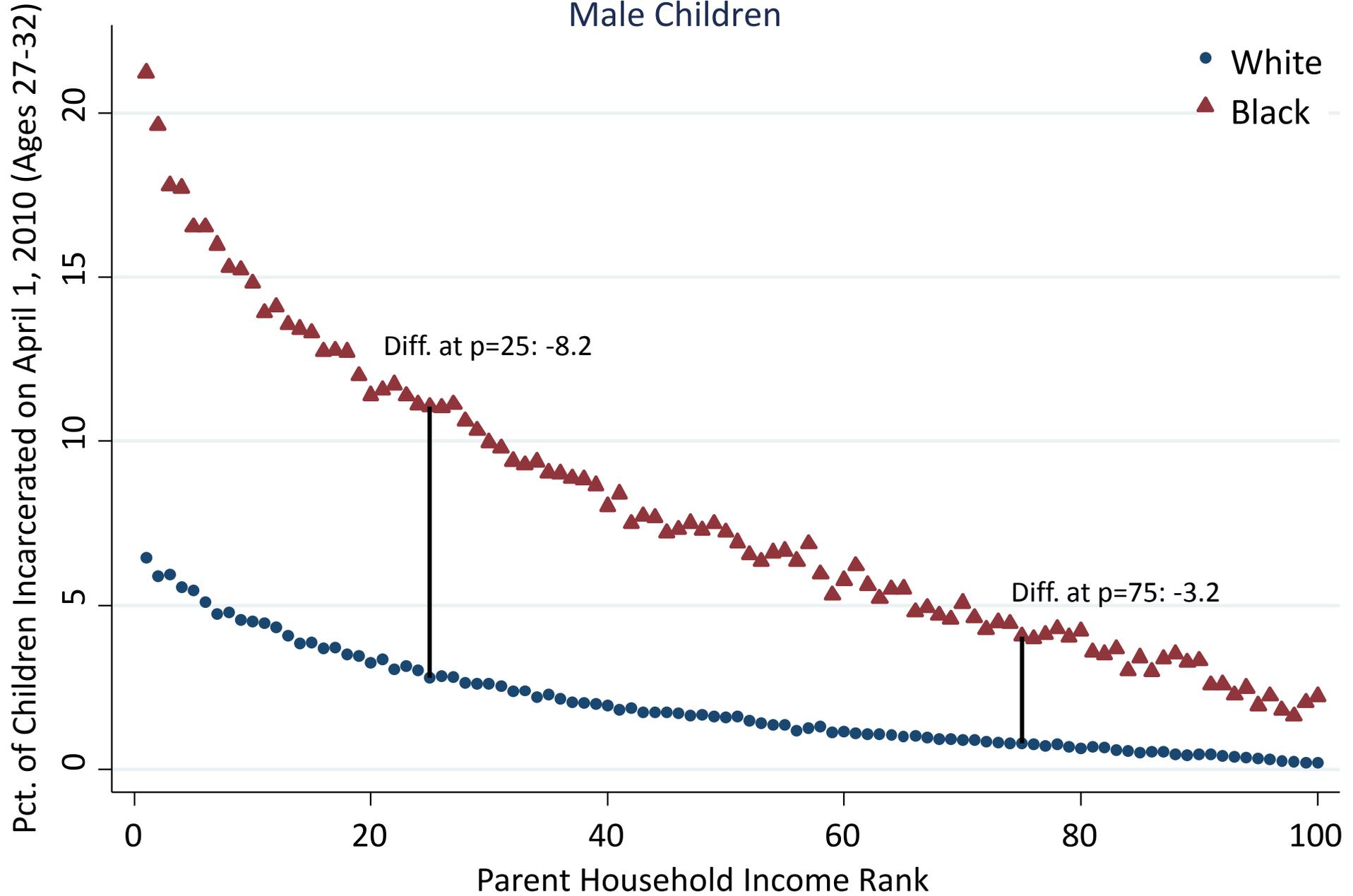


# College Attendance Rates vs. Parent Income Rank



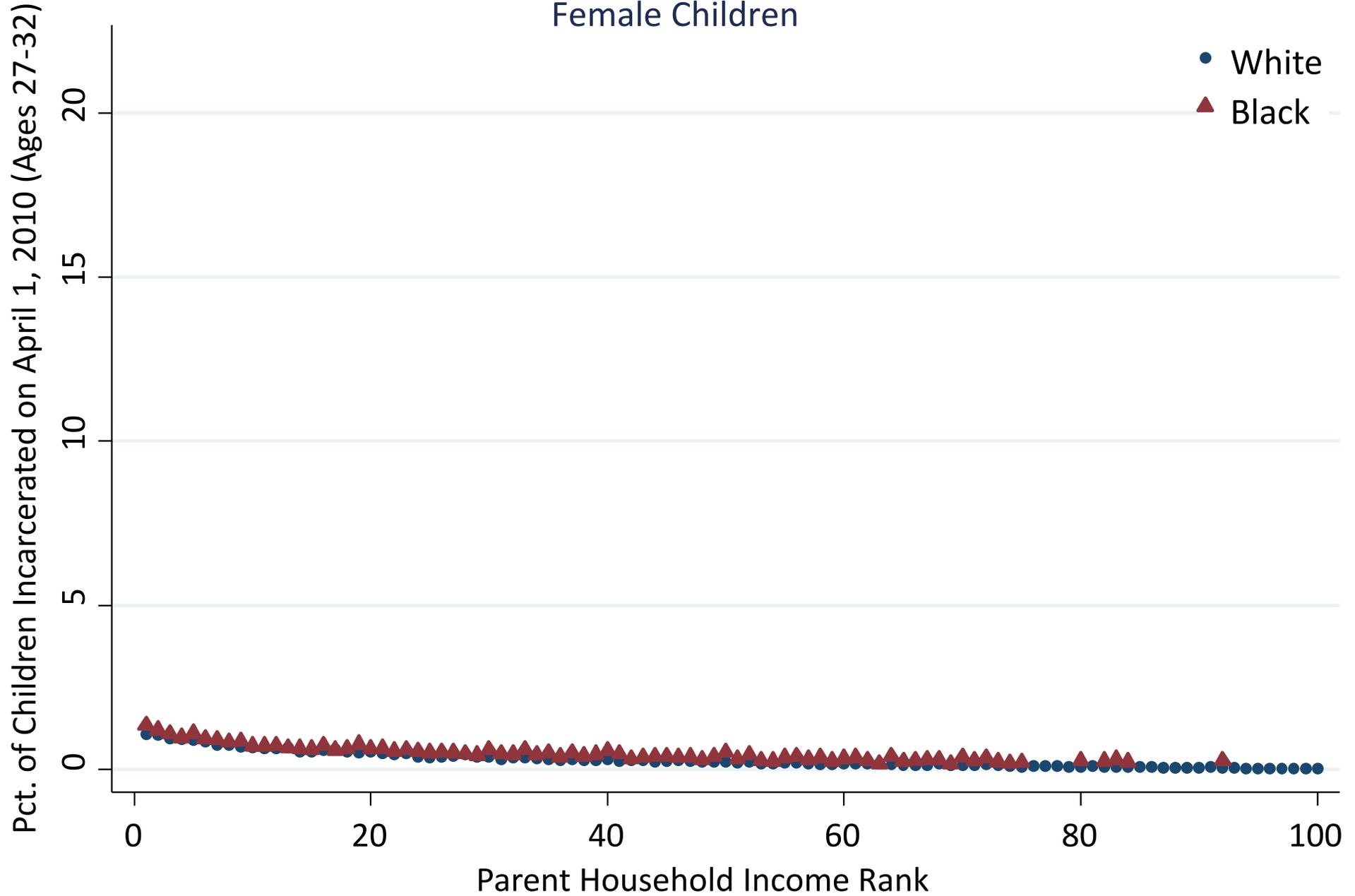
# Incarceration Rates vs. Parent Income Rank

## Male Children



# Incarceration Rates vs. Parent Income Rank

Female Children



## Incarceration and Intergenerational Gaps

- Differences in incarceration rates are substantial, but unlikely to “mechanically” explain entirety of black-white income gap for males
  - Income gaps remains substantial even among children in the highest-income families
  - Incarcerated individuals have low earnings even prior to incarceration [Looney and Turner 2018]
  - Would be useful to quantify impacts of incarceration directly using panel data on incarceration in future work
- We treat incarceration as an outcome determined by the same processes that shape labor market outcomes

## Gender Differences in Racial Disparities: Summary

- Black-white gaps in earnings conditional on parental income are large for men, but small for women
- Does not imply that black women have the same level of welfare as white women
  - Black women have lower *household* income, conditional on parent income
- Also does not mean that incomes of black women will converge to those of white women across generations
  - Black women grow up in lower-income households in each generation
- But does suggest that addressing the unique challenges faced by black men may ultimately raise the incomes of both black men and women

- 1 Data and Sample Definitions 
- 2 Intergenerational Mobility by Race 
- 3 Marriage Rates and Gender Differences 
- 4 Family Level Explanations** 
- 5 Neighborhood Level Explanations 

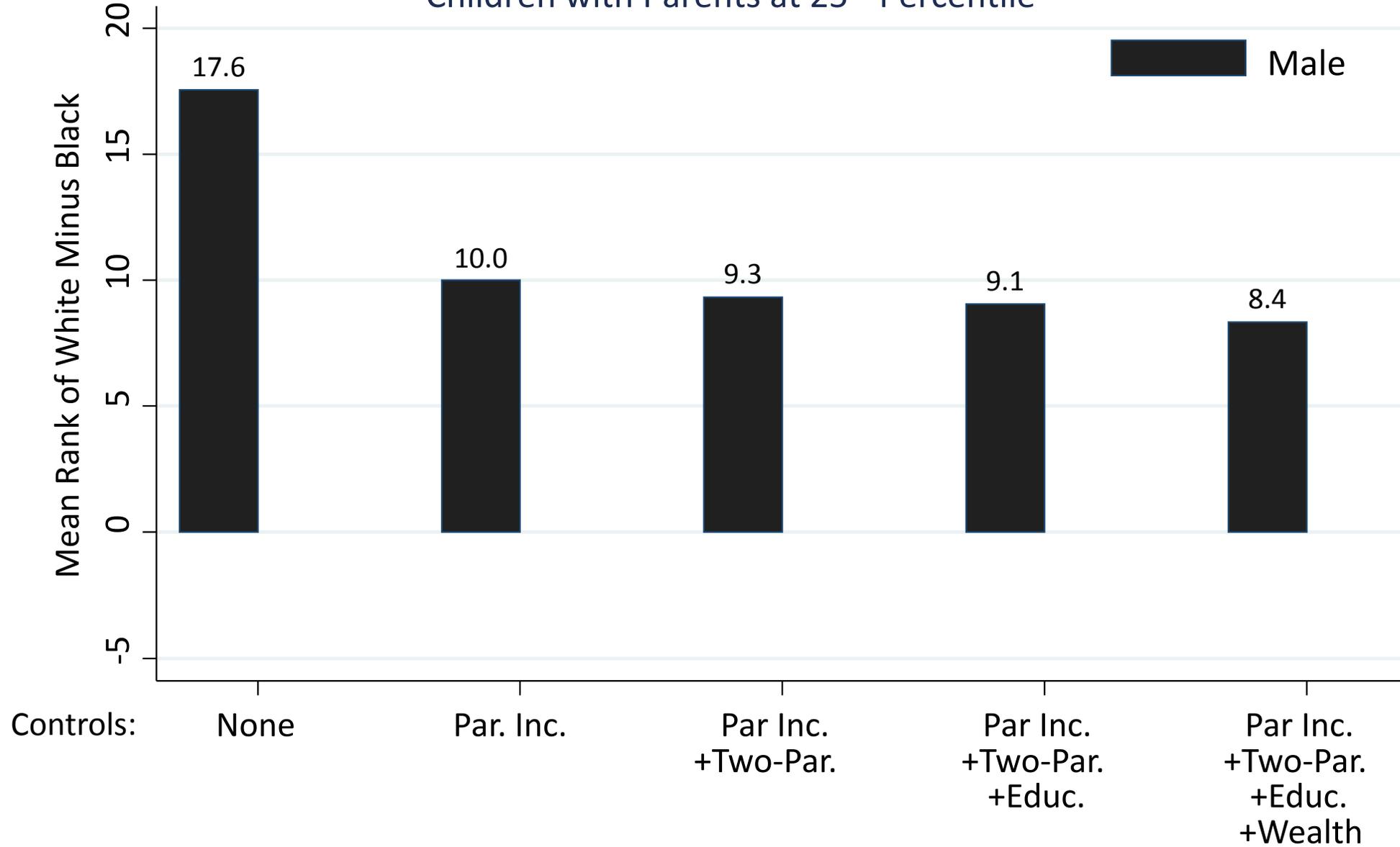
# Explaining the Black-White Intergenerational Income Gap

## Parental Education, Wealth, and Family Structure

- Do family-level factors (e.g., parental wealth) explain intergenerational gaps between black and white men?
- Condition on family-level characteristics to answer this question

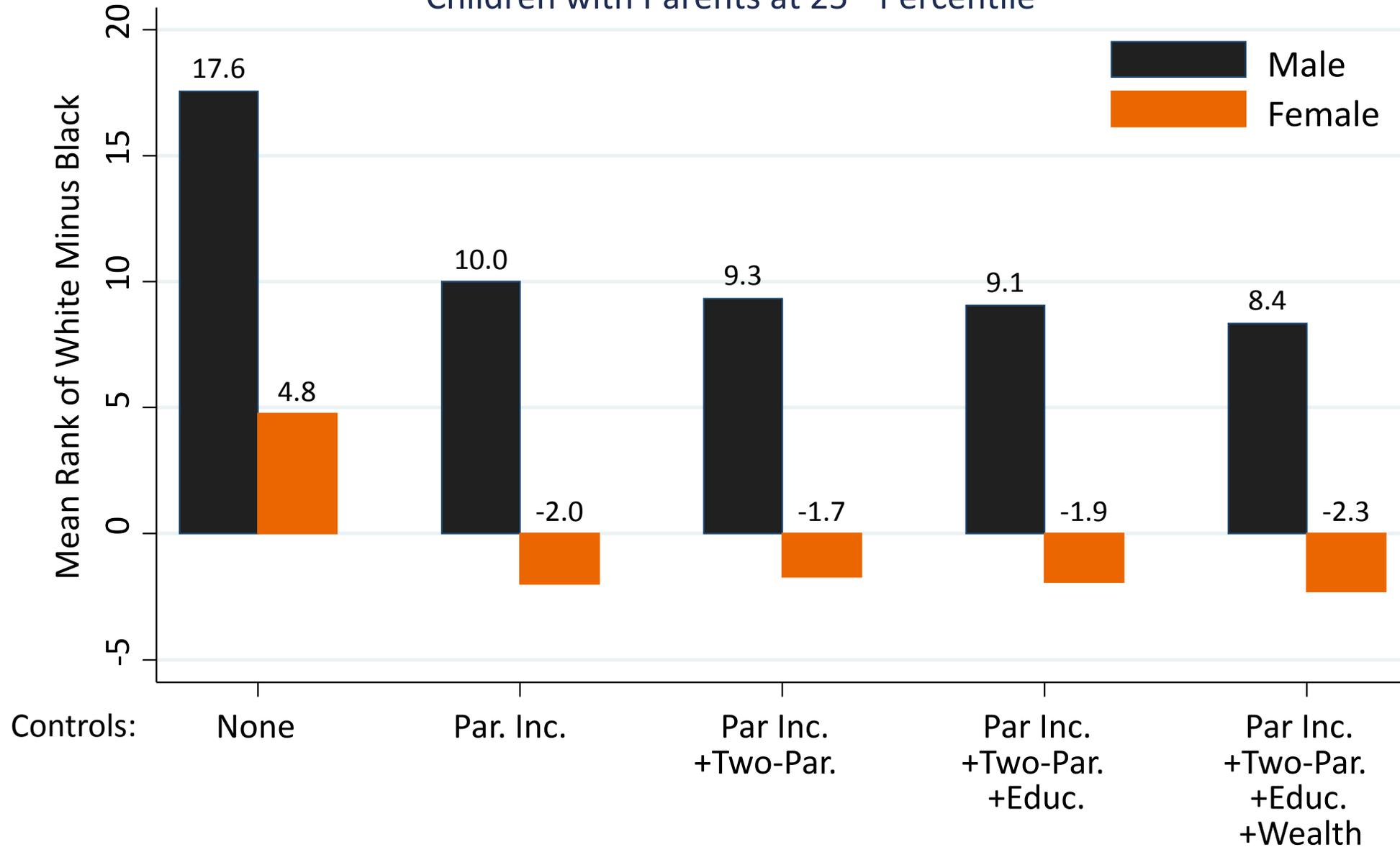
# Effects of Family-Level Factors on the Black-White Income Gap

Children with Parents at 25<sup>th</sup> Percentile



# Effects of Family-Level Factors on the Black-White Income Gap

Children with Parents at 25<sup>th</sup> Percentile



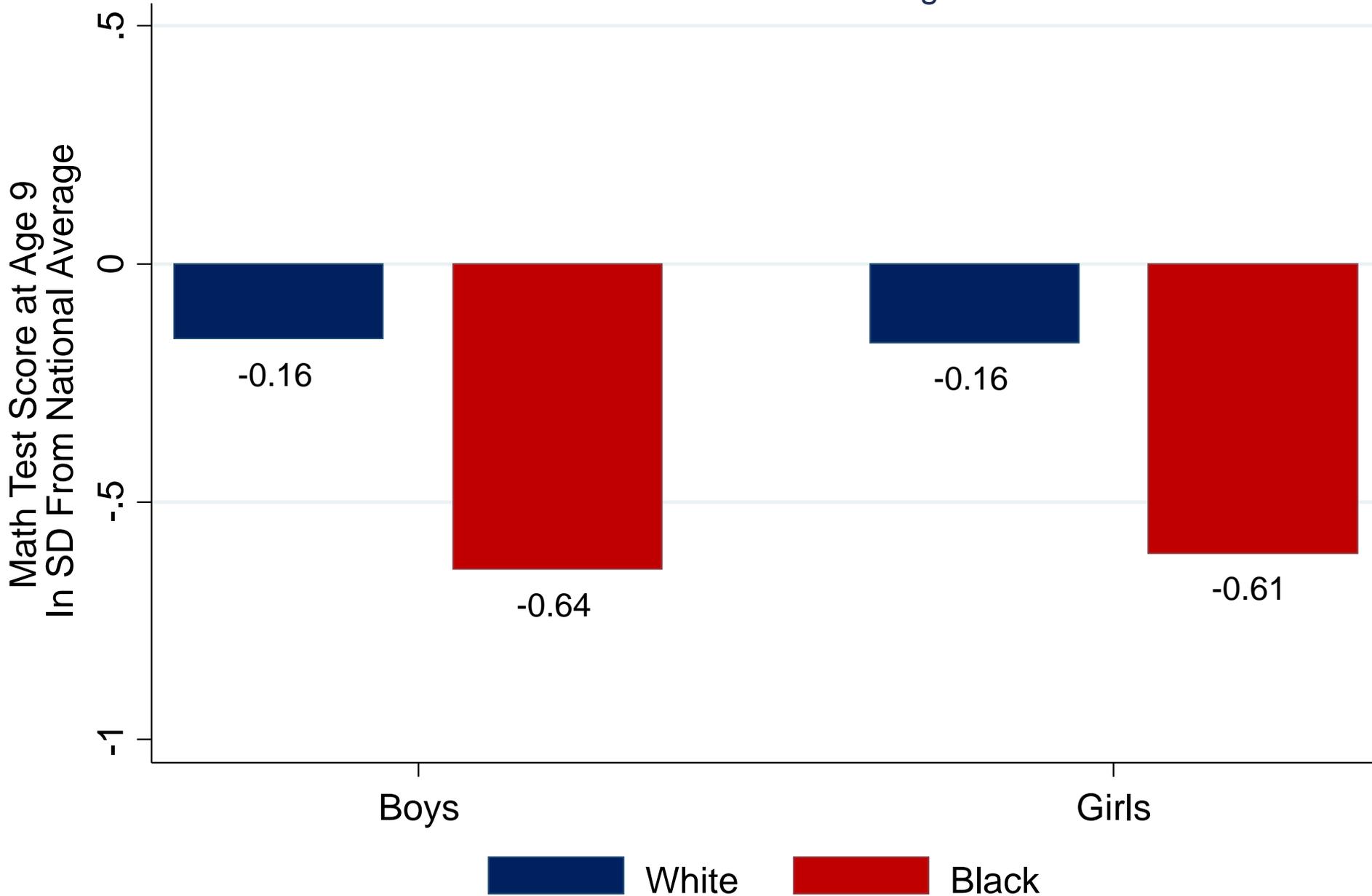
# Explaining the Black-White Intergenerational Income Gap

## Differences in Ability

- Ability hypothesis is inconsistent with gender heterogeneity in intergenerational gaps
  1. No ex-ante reason that racial differences in ability would produce differences in outcomes for boys but not girls
  2. Prior arguments for ability diffs. based on test score gaps, but black-white test score gaps do not vary by gender

# Test Scores at Age 9 for Low-Income (Free-Lunch Eligible) Students

## National Assessment of Educational Progress 2012



# Explaining the Black-White Intergenerational Income Gap

## Differences in Ability

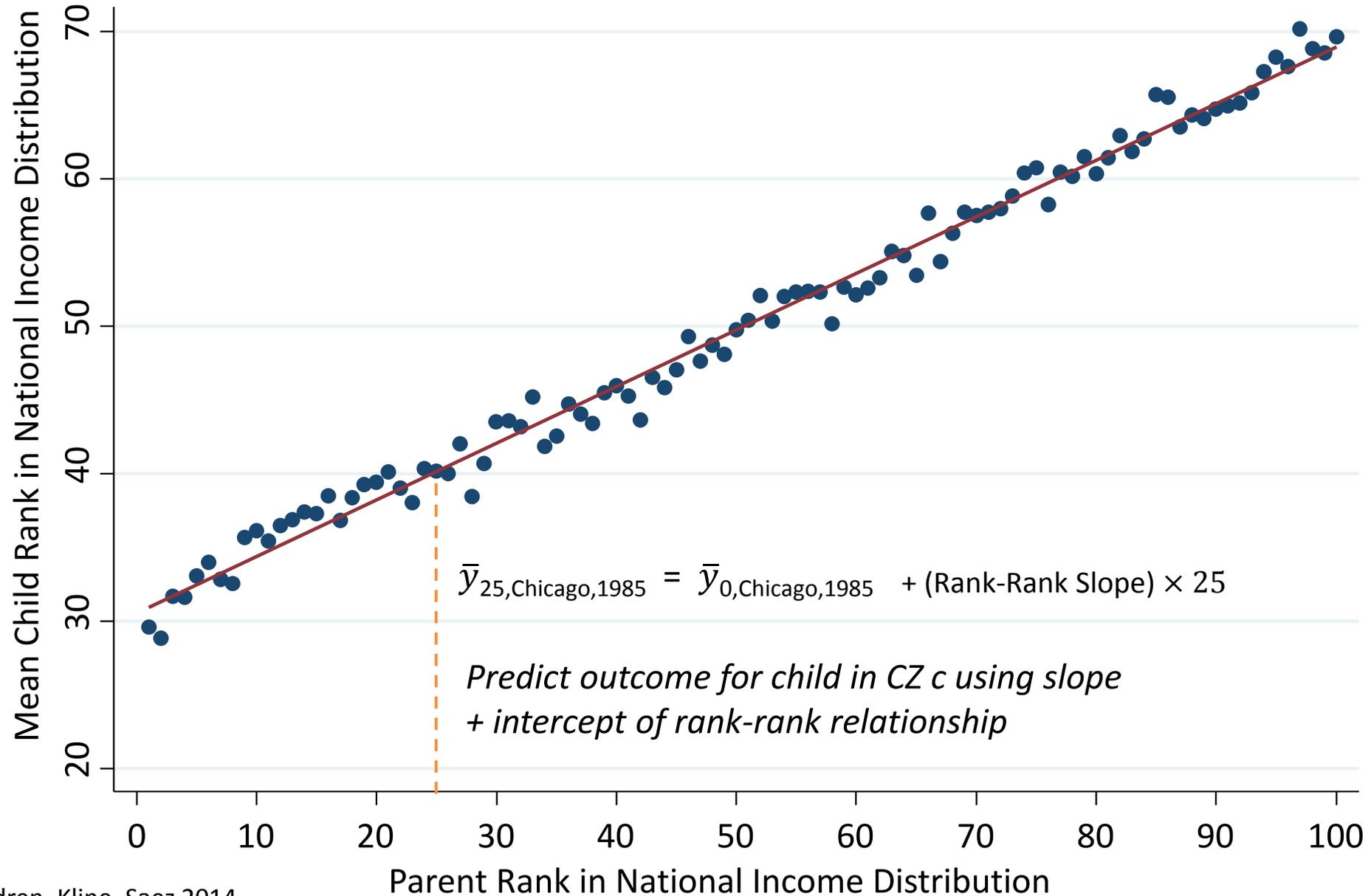
- Ability hypothesis is inconsistent with gender heterogeneity in intergenerational gaps
  1. No ex-ante reason that racial differences in ability would produce differences in outcomes for boys but not girls
  2. Prior arguments for ability diffs. based on test score gaps, but black-white test score gaps do not vary by gender
    - Test scores may not be an accurate measure of ability for black children, e.g. because of test bias or stereotype threat [Steele et al. 1995, Jencks et al. 1998]

- 1 Data and Sample Definitions 
- 2 Intergenerational Mobility by Race 
- 3 Marriage Rates and Gender Differences 
- 4 Family Level Explanations 
- 5 Neighborhood Level Explanations 

# Neighborhood Environments and the Black-White Gap

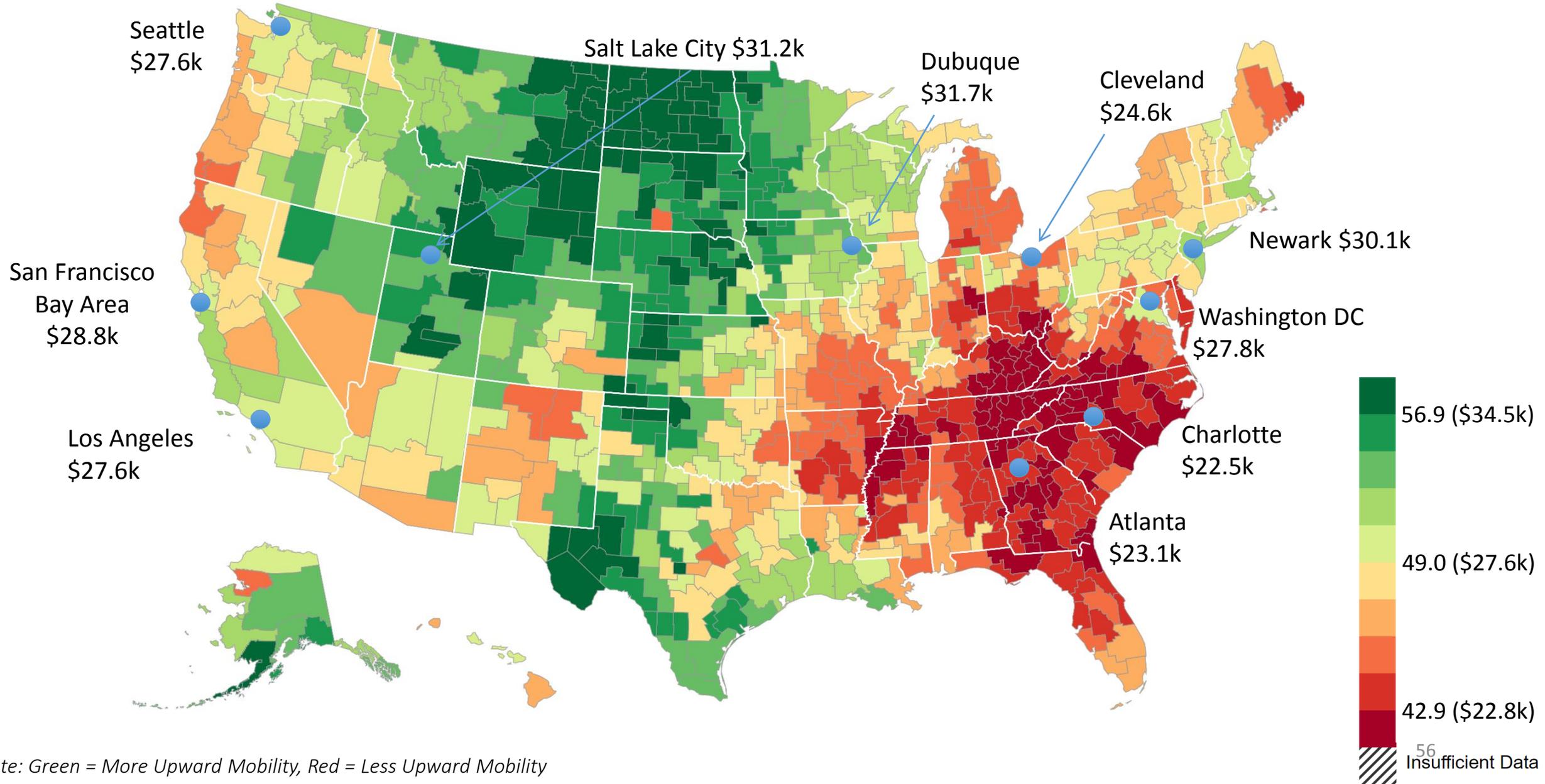
- Do blacks have worse outcomes than whites because they live in different neighborhoods?
- Begin by examining broad geographic variation across commuting zones [Chetty, Hendren, Kline, and Saez 2014]
  - Assign children to locations in proportion to the fraction of their childhood that they spent in each CZ
- Estimate expected rank of children with parents at the 25<sup>th</sup> percentile of national income distribution using linear regression within each CZ

# Mean Child Income Rank at Age 30 vs. Parent Income Rank for Children Born in 1980 and Raised in Chicago



# The Geography of Upward Mobility in the United States

## Average Individual Income for Males with Parents Earning \$25,000 (25<sup>th</sup> percentile)

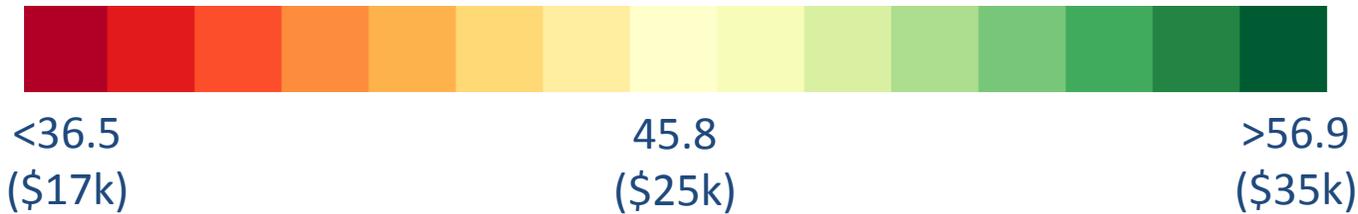
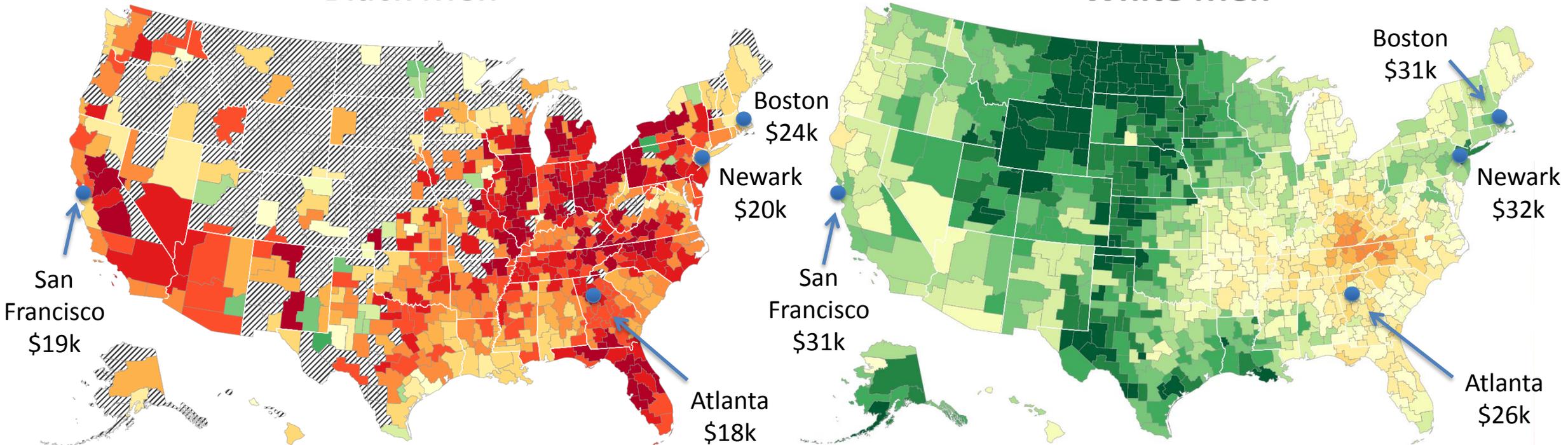


# Two Americas: The Geography of Upward Mobility by Race

Average Individual Income for Boys with Parents Earning \$25,000 (25<sup>th</sup> percentile)

## Black Men

## White Men



Note: Green = More Upward Mobility, Red = Less Upward Mobility; Grey = Insufficient Data

## Neighborhood Environments and the Black-White Gap

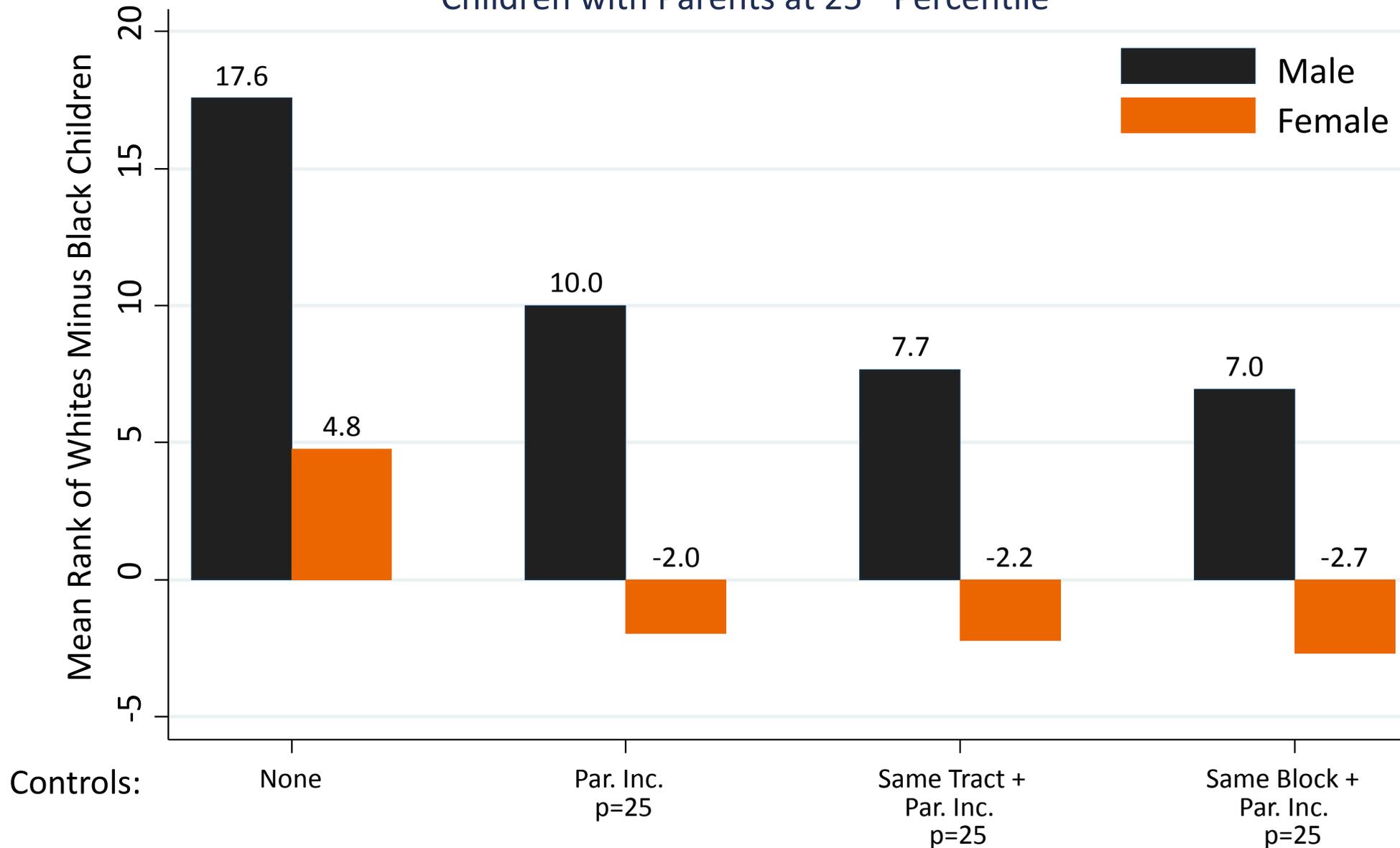
- Commuting-zone level variation illuminates broad regional patterns but does not directly test for “neighborhood” effects
- Blacks live in different neighborhoods from whites within CZs
- Zoom in to examine variation across Census tracts in the rest of the lecture
  - 70,000 Census tracts with about 4,250 people per tract in the U.S.

# Variation in the Black-White Gap Across Tracts

- Four key results:
  1. Black boys have lower earnings than white boys in 99% of Census tracts in America, controlling for parental income

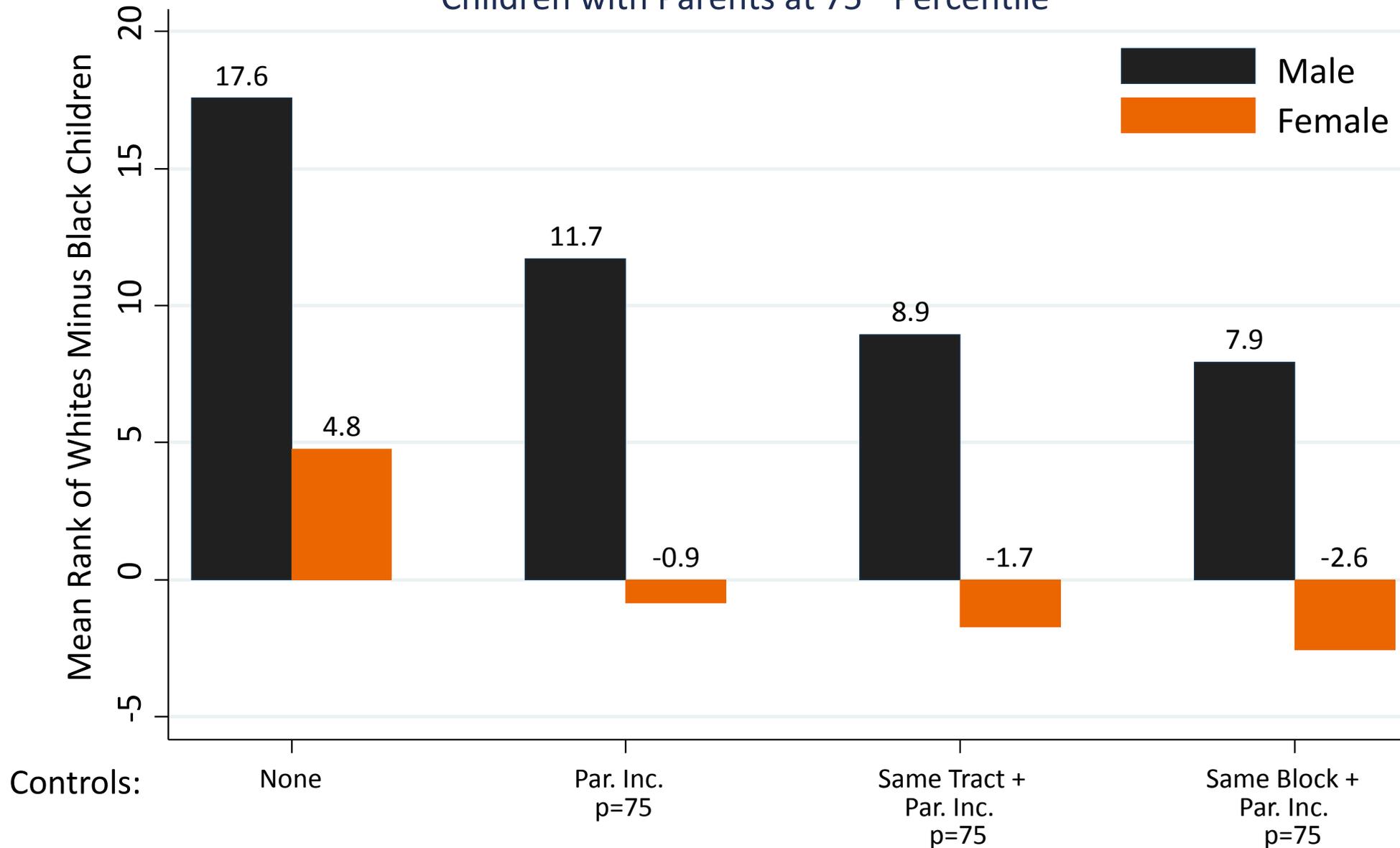
# Black-White Gaps within Neighborhoods by Gender

Children with Parents at 25<sup>th</sup> Percentile

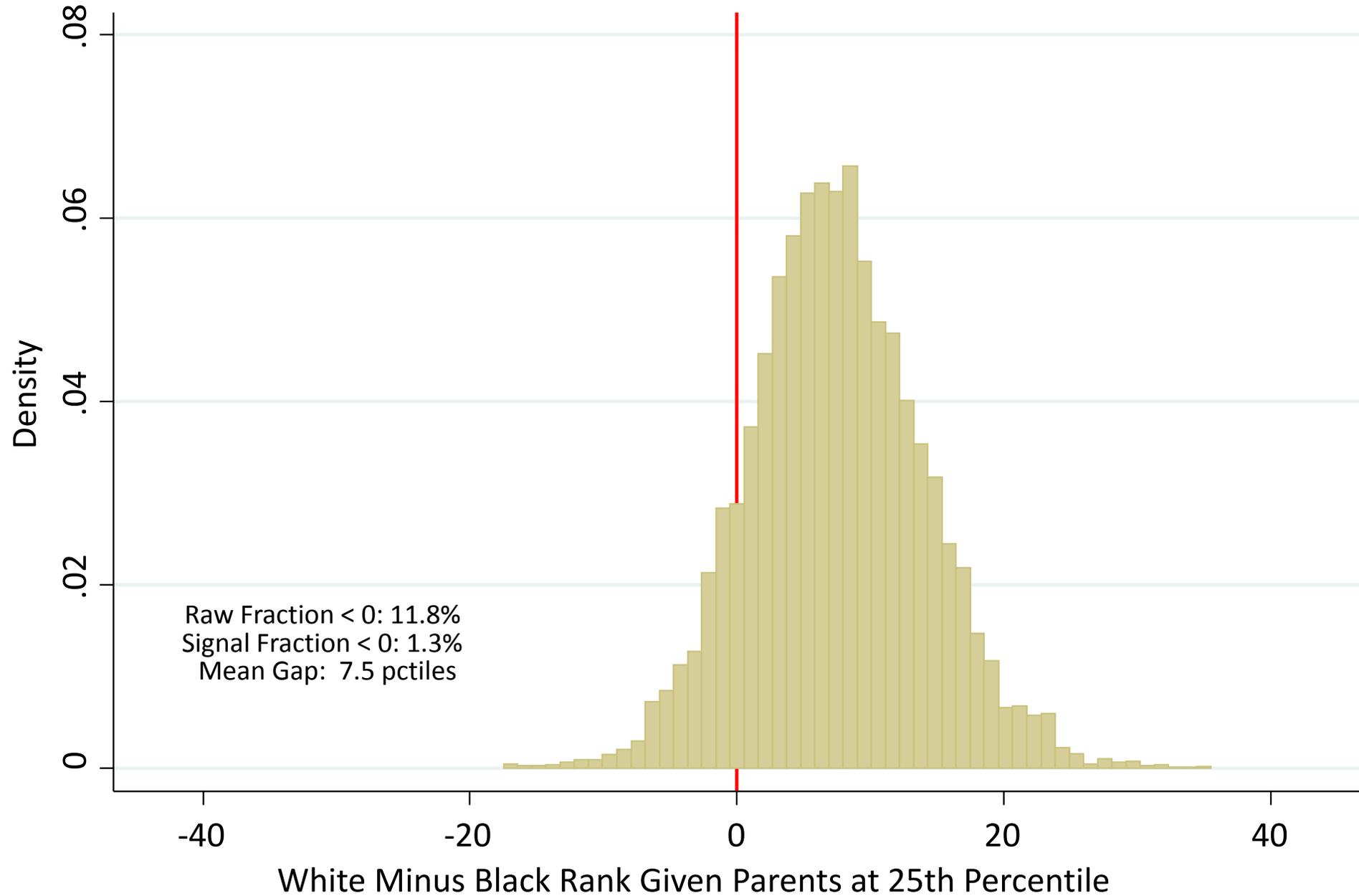


# Black-White Gaps within Neighborhoods by Gender

Children with Parents at 75<sup>th</sup> Percentile



# Distribution of Black – White Gap in Individual Ranks Across Tracts for Men

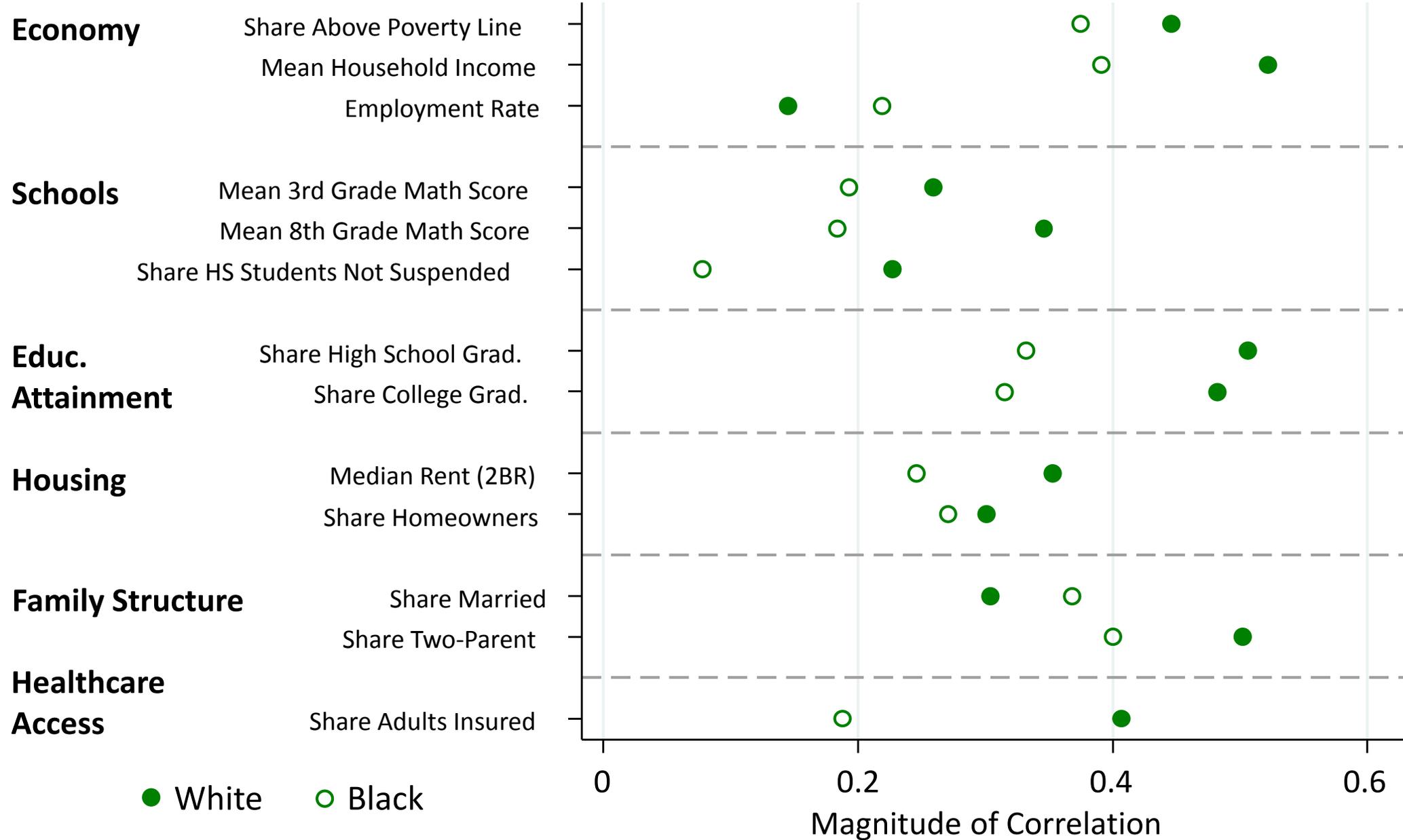


# Variation in the Black-White Earnings Gap Across Tracts

- Four key results:
  1. Black boys have lower earnings than white boys in 99% of Census tracts in America, controlling for parental income
  2. Both black and white boys have better outcomes in “good” (e.g., low-poverty, higher rent) neighborhoods, but the black-white gap is *bigger* in such areas

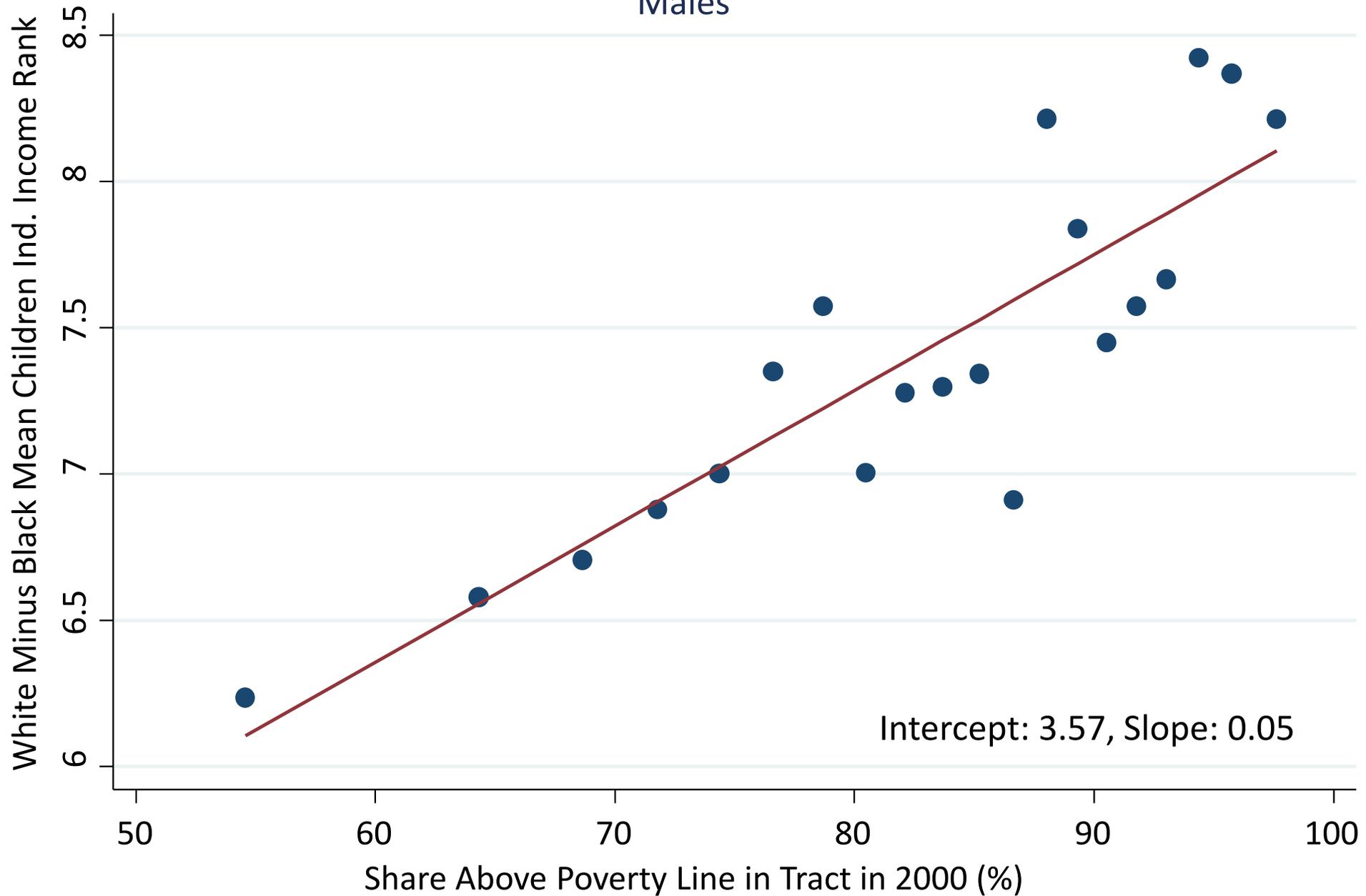
# Correlations between Tract-Level Characteristics and Incomes of Black vs. White Men

Children with Parents at 25<sup>th</sup> Percentile



# Black – White Gap in Individual Income Ranks vs. Share Above Poverty Line

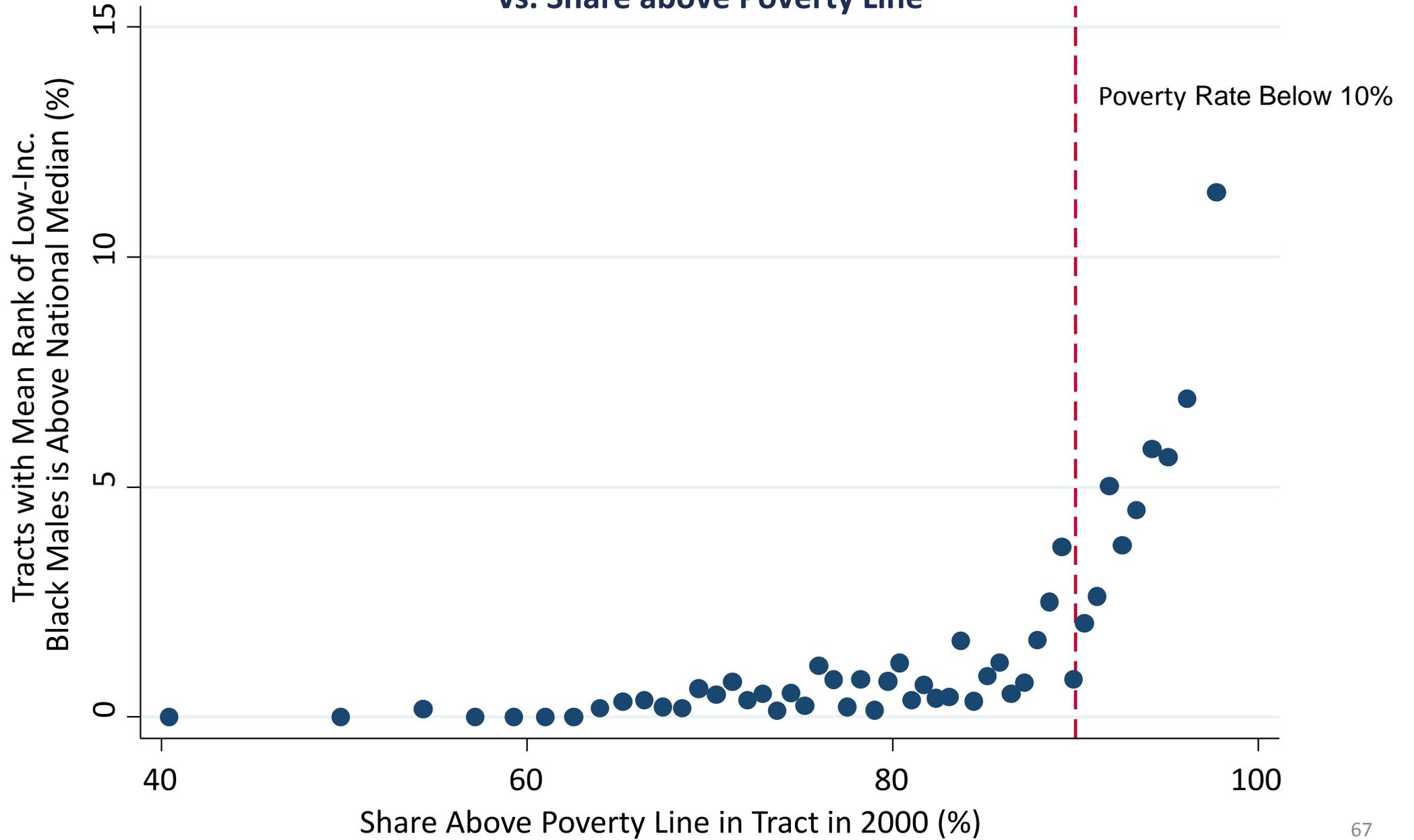
Males



# Variation in the Black-White Earnings Gap Across Tracts

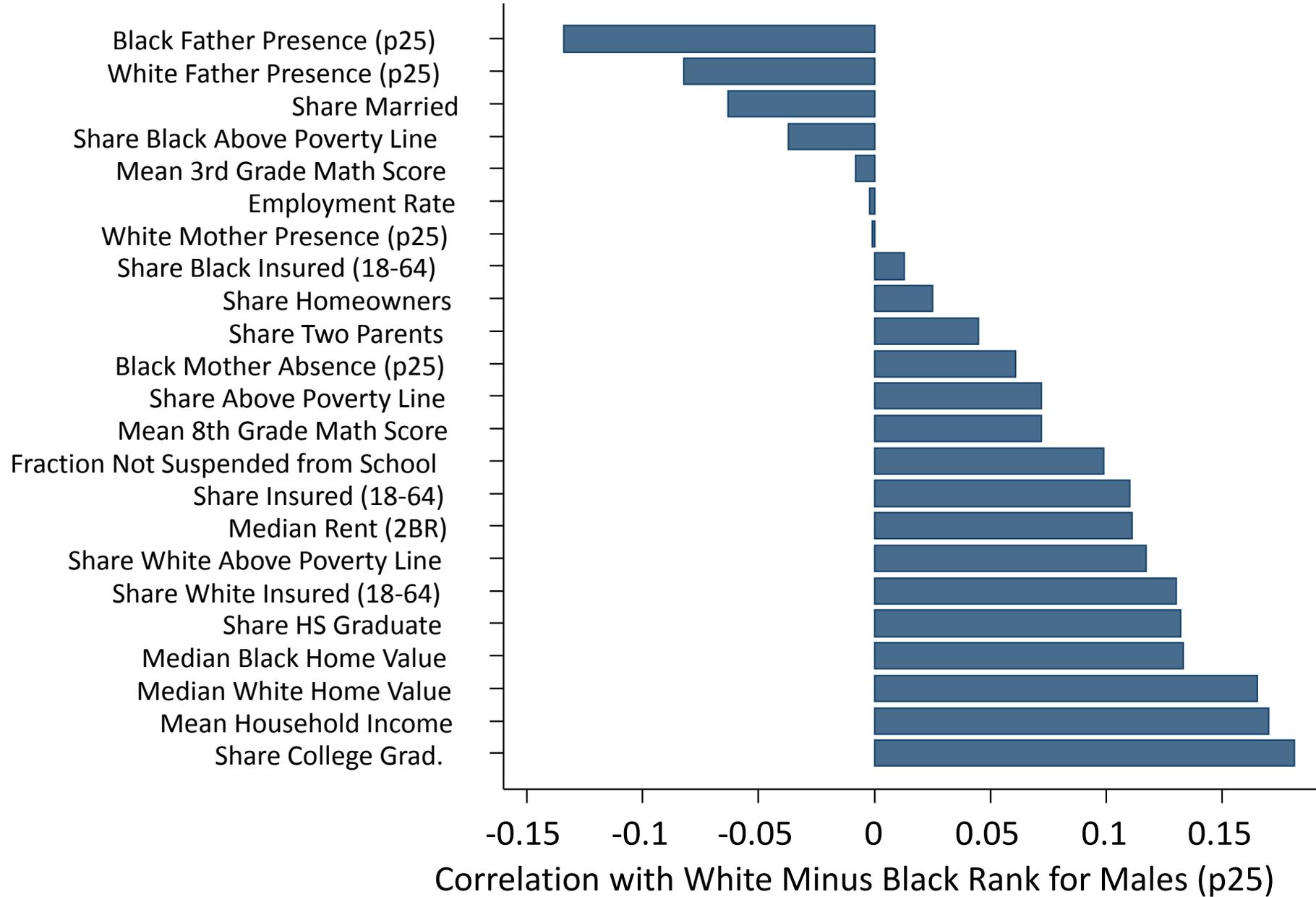
- Four key results:
  1. Black boys have lower earnings than white boys in 99% of Census tracts in America, controlling for parental income
  2. Both black and white boys have better outcomes in “good” (e.g., low-poverty, higher rent) neighborhoods, but the black-white gap is *bigger* in such areas
  3. Within low-poverty areas, there are two factors associated with better outcomes for black boys *and* smaller gaps: greater father presence and less racial bias

# Percentage of Tracts in which Predicted Rank of Black Males is above National Median vs. Share above Poverty Line



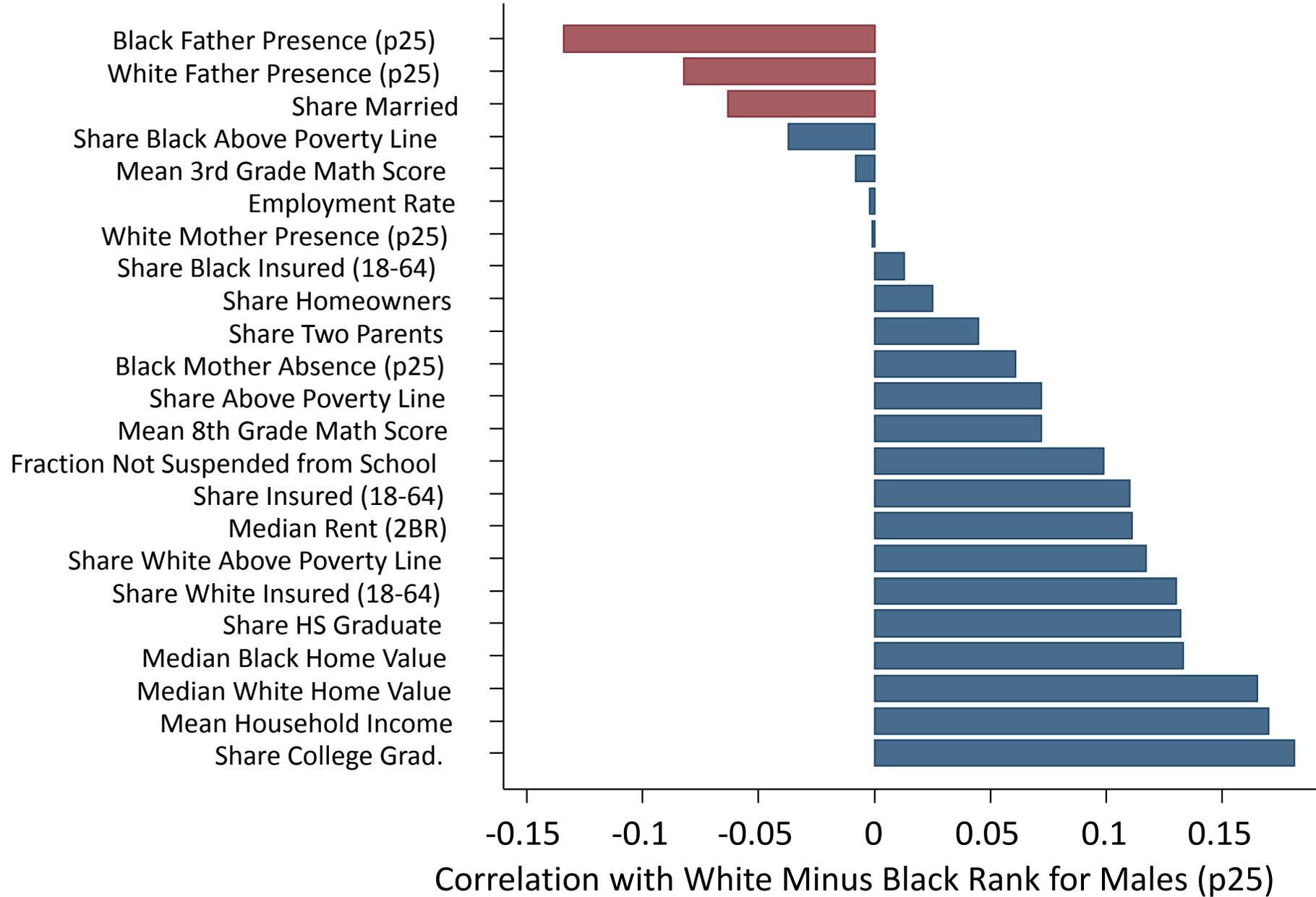
# Association Between Tract-Level Characteristics and Black-White Gap

## Tracts with Poverty Rates Below 10%



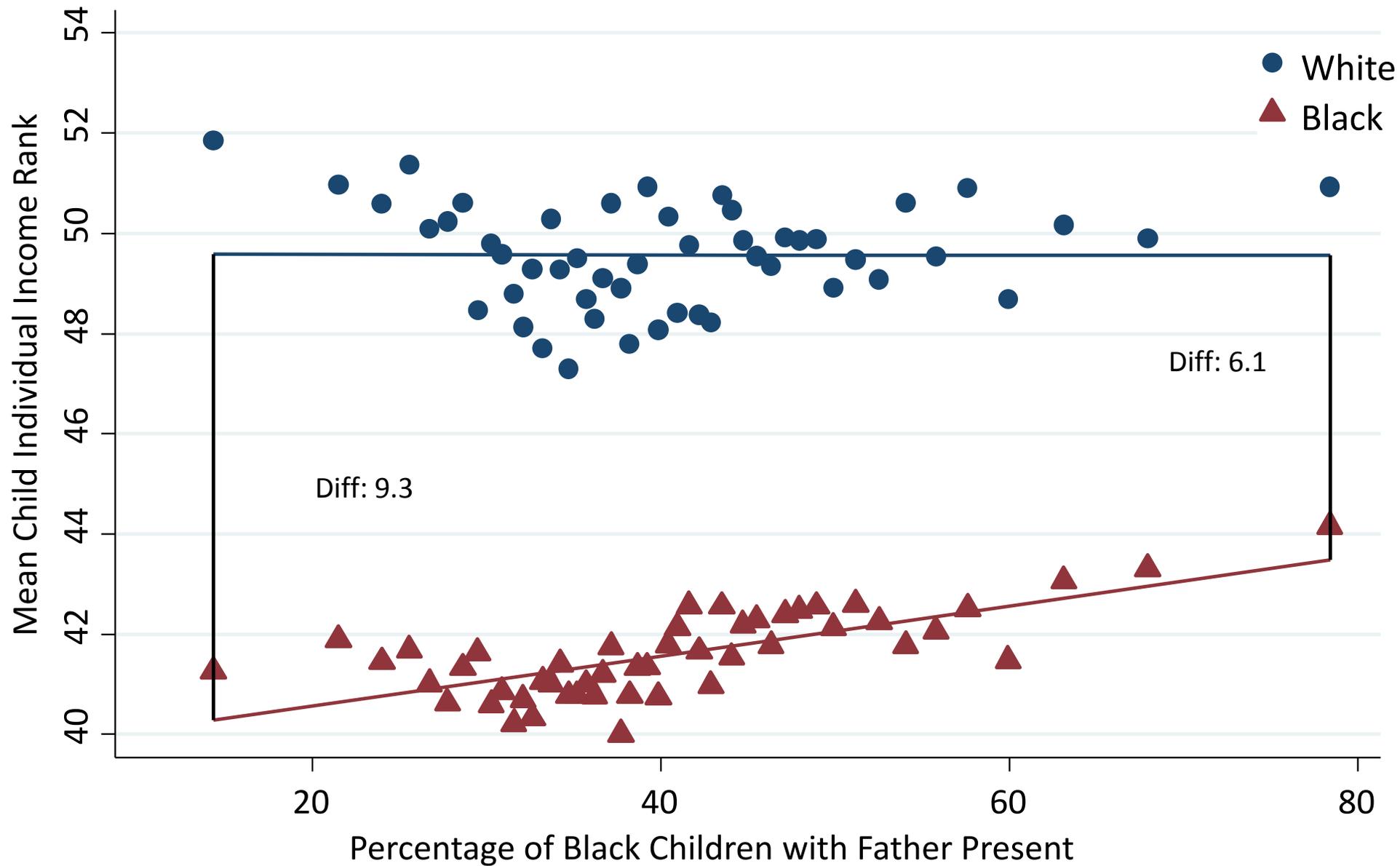
# Association Between Tract-Level Characteristics and Black-White Gap

## Tracts with Poverty Rates Below 10%



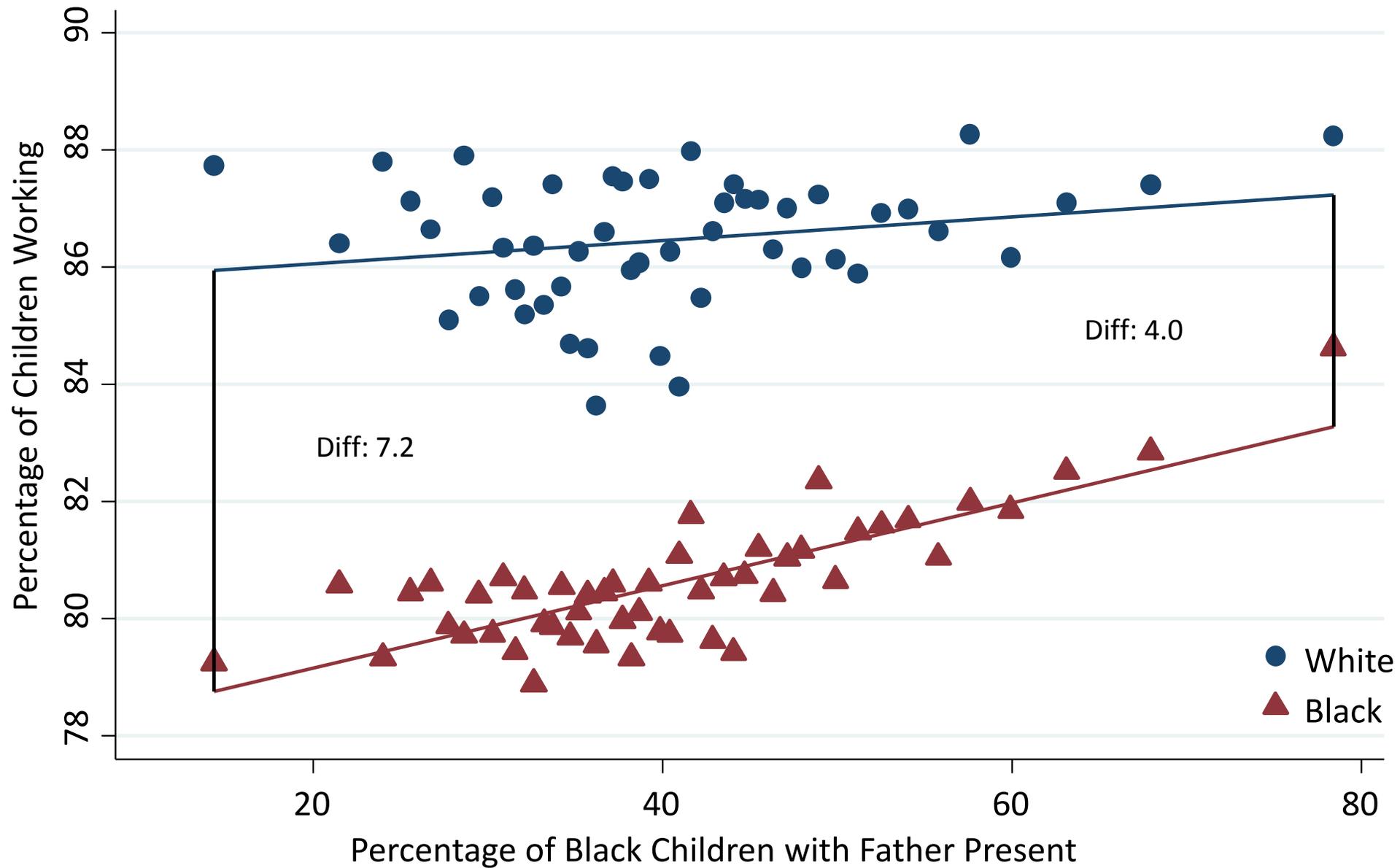
# Black-White Gap in Individual Income Rank vs. Father Presence

Male Children with Parents at 25th Percentile - Poverty Share Less than 10%



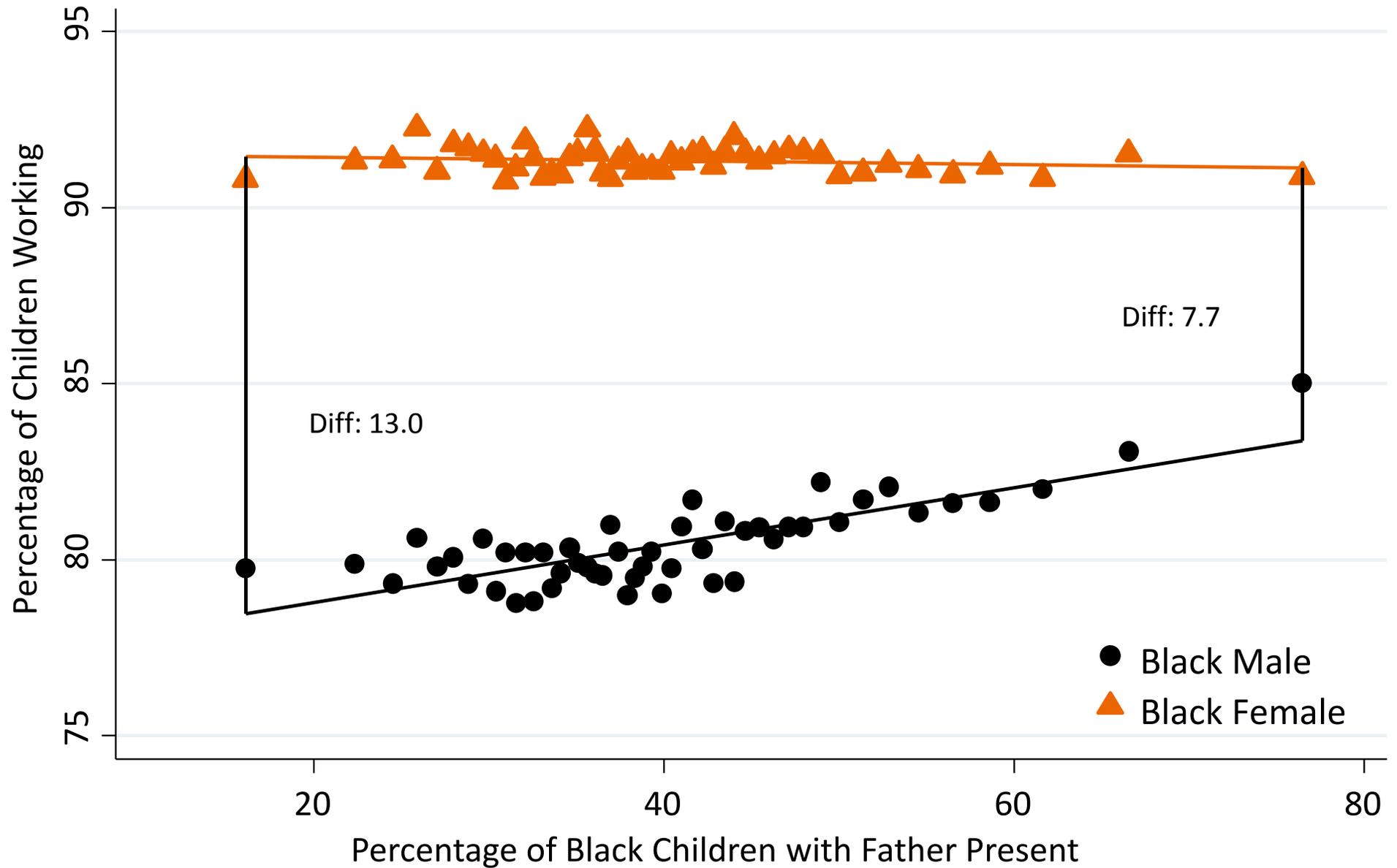
# Black-White Gap in Employment Rates vs. Father Presence

Male Children with Parents at 25th Percentile - Poverty Share Less than 10%



# Male-Female Gap in Employment Rates vs. Father Presence

Black Children with Parents at 25th Percentile - Poverty Share Less than 10%



## Association Between Father Presence and Black Boys' Outcomes: Regression Estimates

Dependent Variable: Mean Rank of Black Boys with Parents at 25<sup>th</sup> Percentile in Tract

	Baseline	Black and White Father Presence	Children with Two Parents	Gender Ratio
	(1)	(2)	(3)	(4)
Low-Income Black Father Presence	0.0492 (0.0062)	0.0450 (0.0068)	0.0461 (0.0128)	
Low-Income White Father Presence		0.0077 (0.0076)		
Low-Income Black Father Presence				0.0387 (0.0043)
Low-Income Black Male Adults Per Child				-0.0011 (0.0011)
Low-Poverty Tracts	X	X	X	

Results from OLS regressions at the tract level. Standard errors in parentheses.

## Father Presence: Additional Results

- Greater presence of *white* fathers in tract is predictive of white boys' outcomes
  - Phenomenon is not unique to black boys; but rates of father presence are much lower for black boys
- Black father presence in *childhood* neighborhood is predictive even conditional on tract in which child lives as an adult
  - Not a mechanical consequence of black boys and their fathers being subject to the same set of environmental factors (e.g., policing)

## Racial Bias and Black Children's Outcomes

- Now turn to another set of factors that are associated with both better outcomes for black boys and smaller black-white gaps: racial bias
- Racial bias measures unavailable at the Census tract level
- Instead focus on two measures available at county and media market level:
  1. Implicit racial bias: index based on participants' ability to match positive and negative words with black vs. white faces [Greenwald et al. 1998]
  2. Explicit racial animus: index based on frequency of Google searches for racial epithets [Stephens-Davidowitz 2014]

## Association Between Racial Bias and Black Boys' Outcomes: Regression Estimates

Dependent Variable: Mean Rank of Black Children with Parents at 25<sup>th</sup> Percentile in Tract

Dependent Variable:	<b>Males Baseline</b>	<b>White vs. Black IAT</b>	<b>State Fixed Effects</b>	<b>Females</b>	<b>Males</b>	<b>Females</b>
	(1)	(2)	(3)	(4)	(5)	(6)
Difference in IAT	-0.0081 (0.0024)		-0.0060 (0.0019)	-0.0082 (0.0029)		
IAT for Whites		-0.0080 (0.0023)				
IAT for Blacks		0.0047 (0.0023)				
Racial Animus					-0.0263 (0.0056)	-0.0191 (0.0080)
State FE's			X			
Number of Cells	340	340	340	325	28	27
Number of Observations	492,200	492,200	492,200	491,700	386,600	386,600

Columns (1)-(4) are at the county level. Columns (5)-(6) are at the media market level. We restrict to counties (media

## Variation in the Black-White Earnings Gap Across Tracts

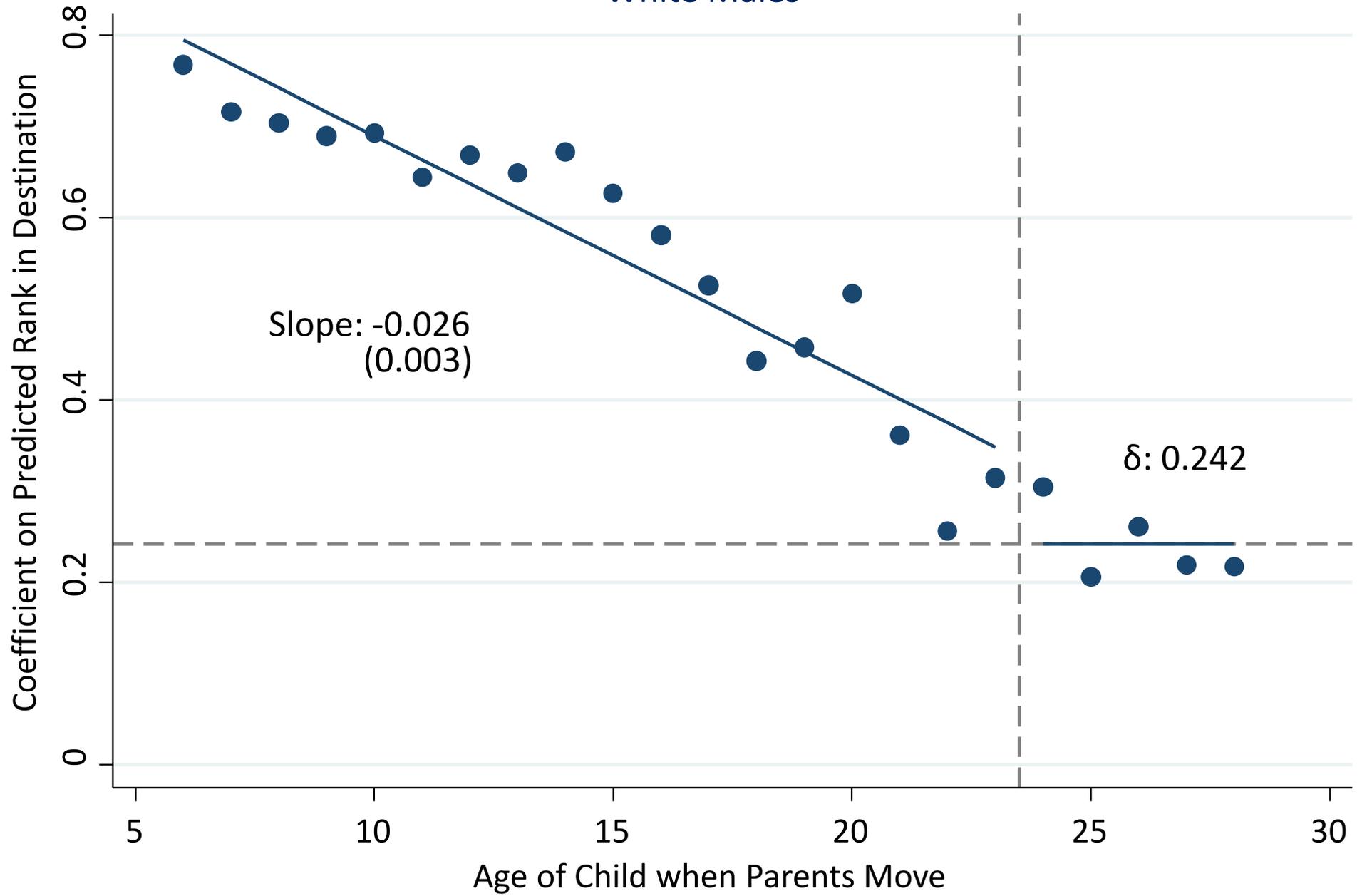
- Four key results:
  1. Black boys have lower earnings than white boys in 99% of Census tracts in America, controlling for parental income
  2. Both black and white boys have better outcomes in “good” (e.g., low-poverty, higher rent) neighborhoods, but the black-white gap is *bigger* in such areas
  3. Within low-poverty areas, there are two factors associated with better outcomes for black boys *and* smaller gaps: greater father presence and less racial bias
  4. Neighborhoods have *causal* childhood exposure effects: black boys who move to good areas at a younger age do better

## Identifying the Causal Effects of Neighborhoods

- Ideal experiment: randomly assign children to neighborhoods and compare outcomes in adulthood, by race
- We approximate this experiment using quasi-experimental design developed by Chetty and Hendren (2018)
  - Study families who move across areas in observational data
  - Exploit variation in *age of child* when family moves to identify causal effects of neighborhoods
- Identifying assumption: potential outcomes of children are orthogonal to age at which family moves to a better/worse neighborhood
  - Validated by Chetty and Hendren (2018) and Chetty, Hendren, and Katz (2016)

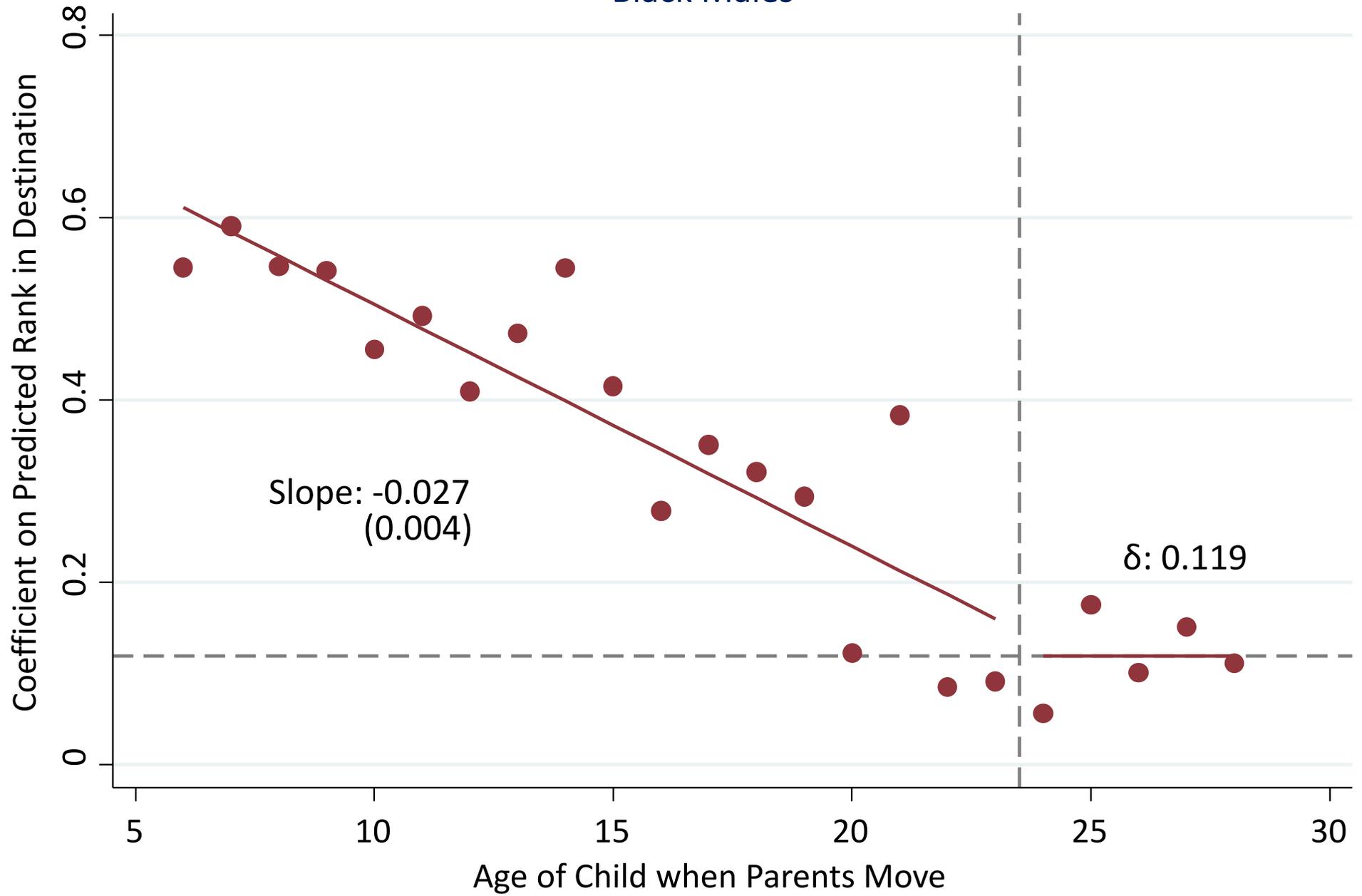
# Childhood Exposure Effects on Income Rank at Age 30

White Males



# Childhood Exposure Effects on Income Rank at Age 30

Black Males



## Race-Specific Childhood Exposure Effects

### OLS Regression Estimates

---

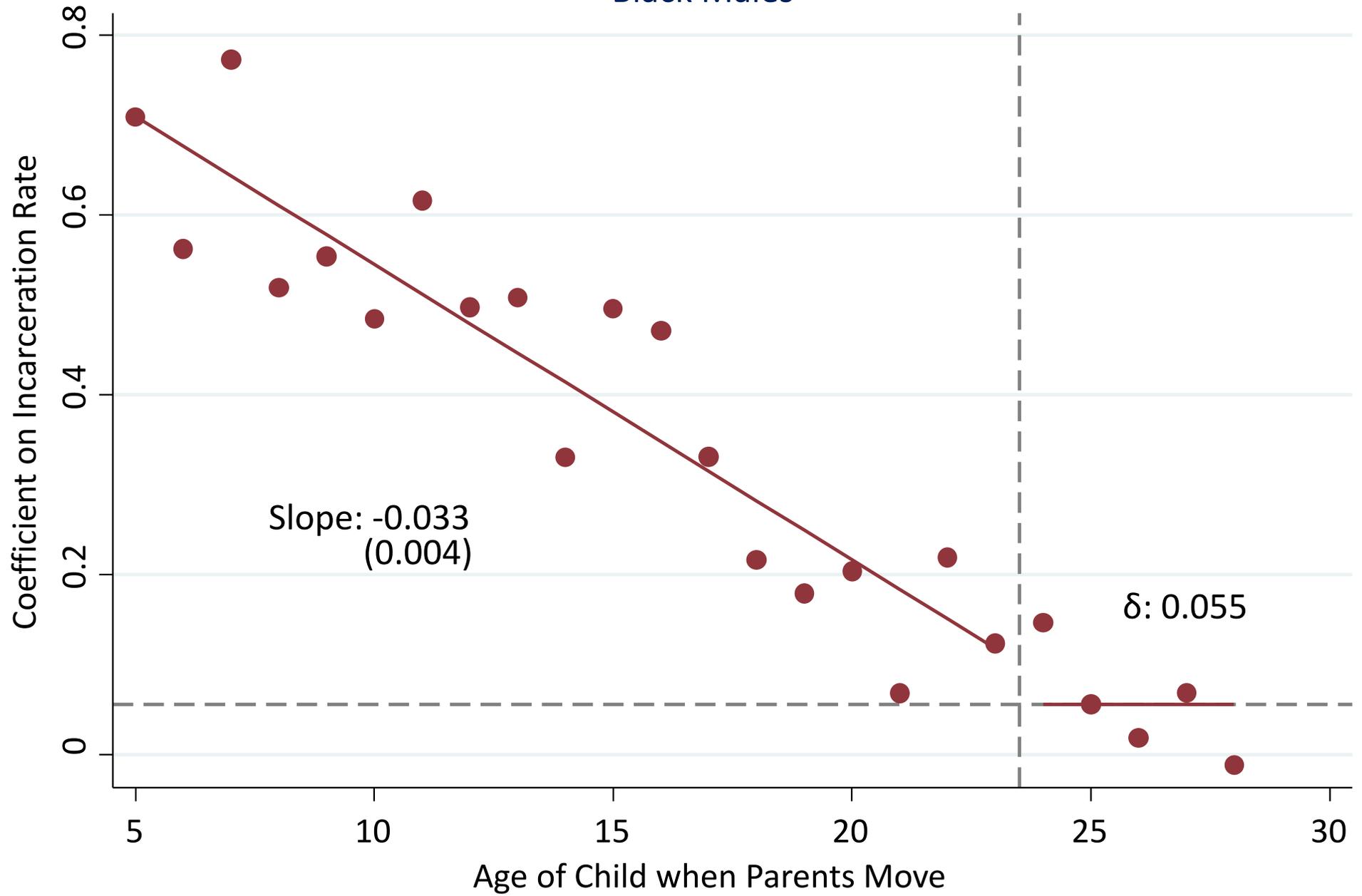
	Whites	Blacks
	(1)	(2)
Prediction for Whites	<b>-0.023</b> (0.002)	0.003 (0.004)
Prediction for Blacks	-0.004 (0.001)	<b>-0.029</b> (0.004)

---

Note: standard errors in parentheses

# Childhood Exposure Effects on Probability of Being Incarcerated in 2010

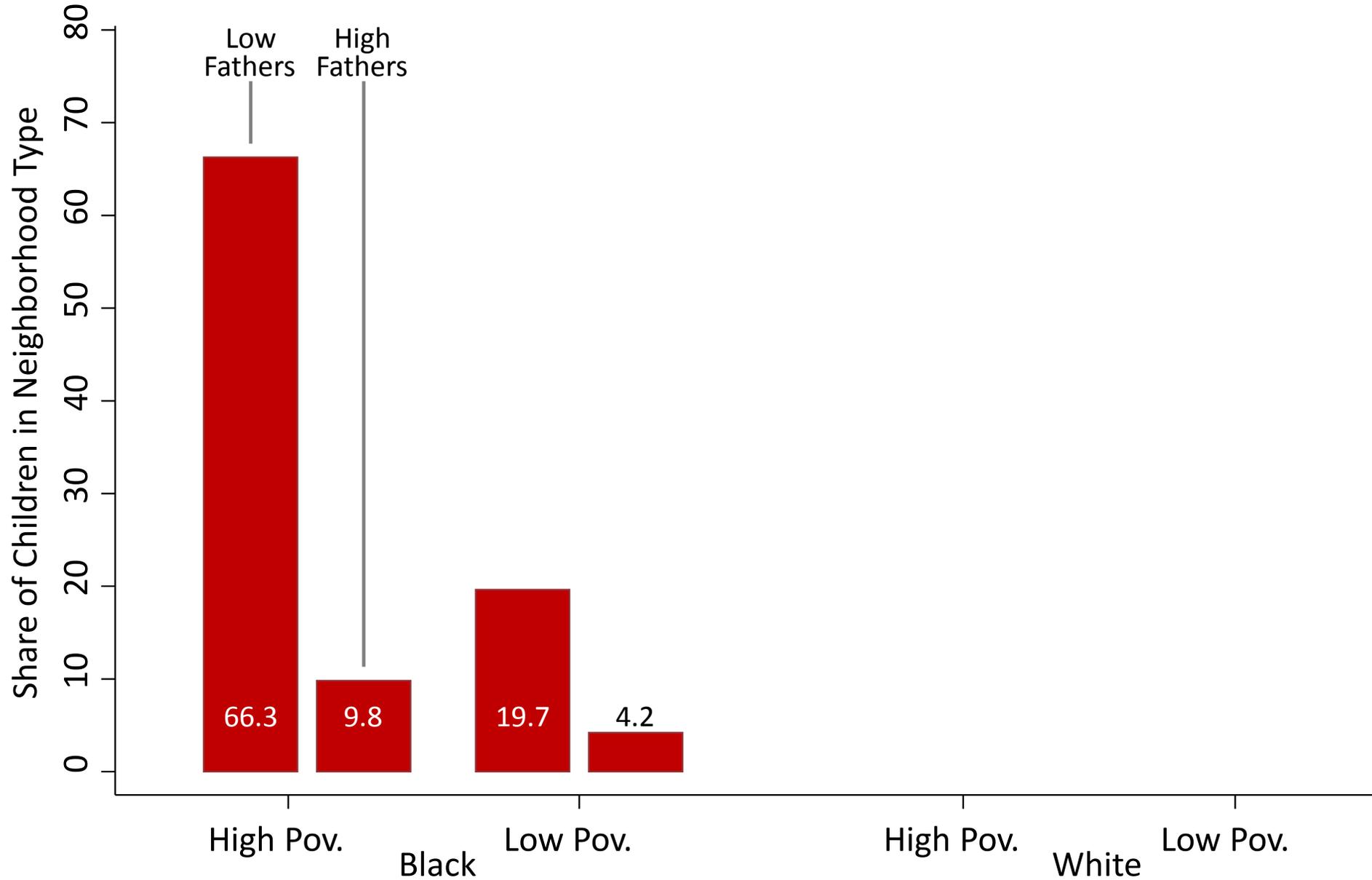
Black Males



## Summary: Impacts of Neighborhood Environments on Black Men

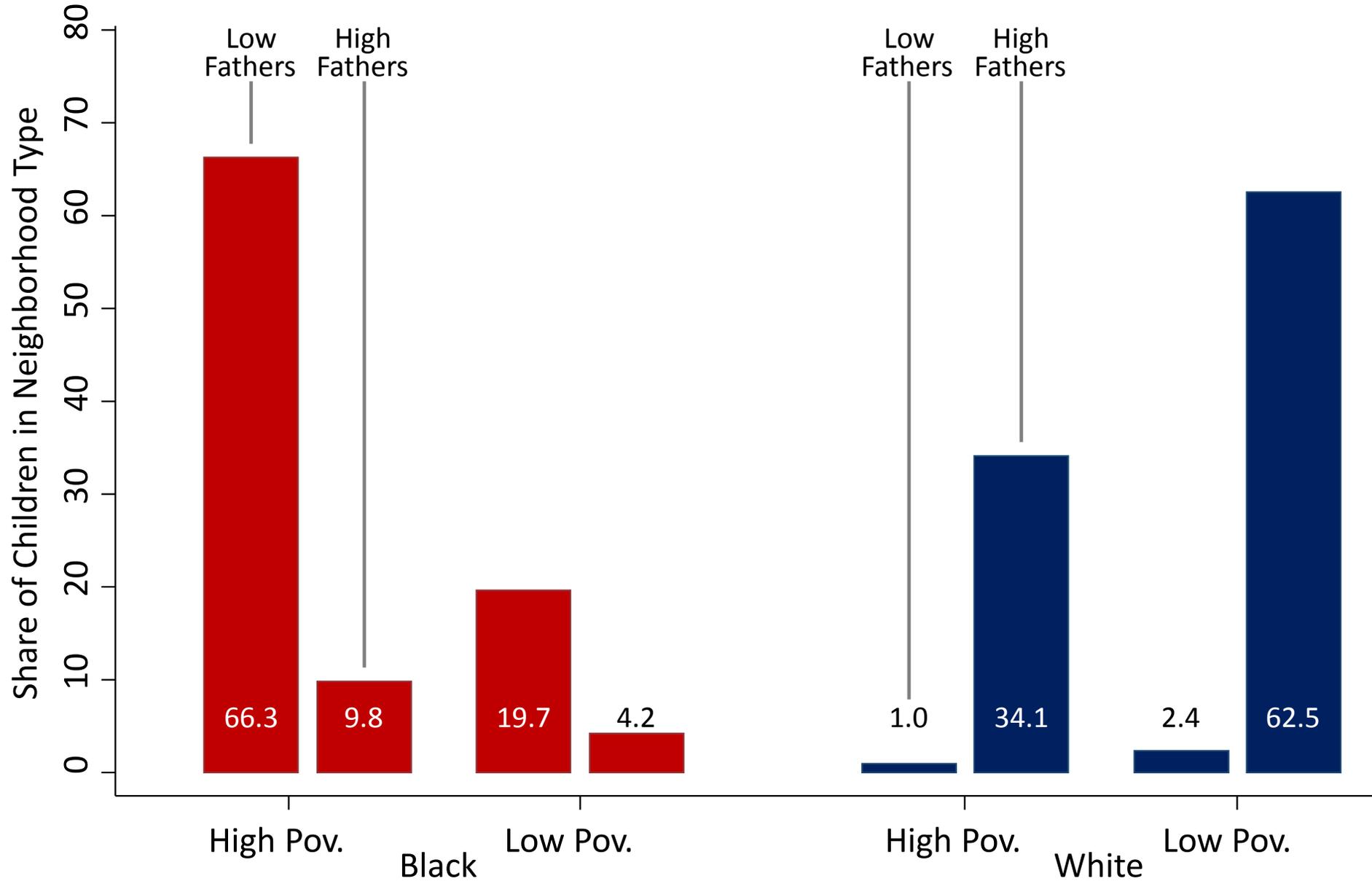
- Main lesson: childhood environment is an important driver of black-white gaps
- But the environmental factors that matter *differ* by race
  - Neighborhood effects cannot be reduced to a common set of factors that affect both black and white boys
- Black boys do well in nbhds. with good resources (low poverty rates) *and* good race-specific factors (high father presence, less racial bias)
- The problem is that there are essentially no such neighborhoods in America

## Father Presence and Poverty Rates by Tract for Blacks vs. Whites



Note: Low-Poverty: Poverty Rate < 10%; High Father Presence: >50% Father Presence Among Children of Own Race

## Father Presence and Poverty Rates by Tract for Blacks vs. Whites



Note: Low-Poverty: Poverty Rate < 10%; High Father Presence: >50% Father Presence Among Children of Own Race

## Examples of High Upward Mobility Neighborhoods for Low-Income Black Men

New York City, NY	
Eastchester / Wakefield	Bronx, NYC
Queens Village / Laurelton	Queens, NYC
Washington, DC	
Downtown Silver Spring / Woodside Park / Woodside Forest	Silver Spring (MD) – Washington DC CZ
New Carrollton / College Park / Greenbelt	Prince Georges' County (MD) - Washington DC CZ

# Conclusions

1. Mobility into and out of poverty is a central determinant of racial disparities
  - Hispanics have relatively high rates of upward mobility → increasing income across generations
  - Blacks have much lower rates of upward mobility → persistent gaps across generations

## Conclusions

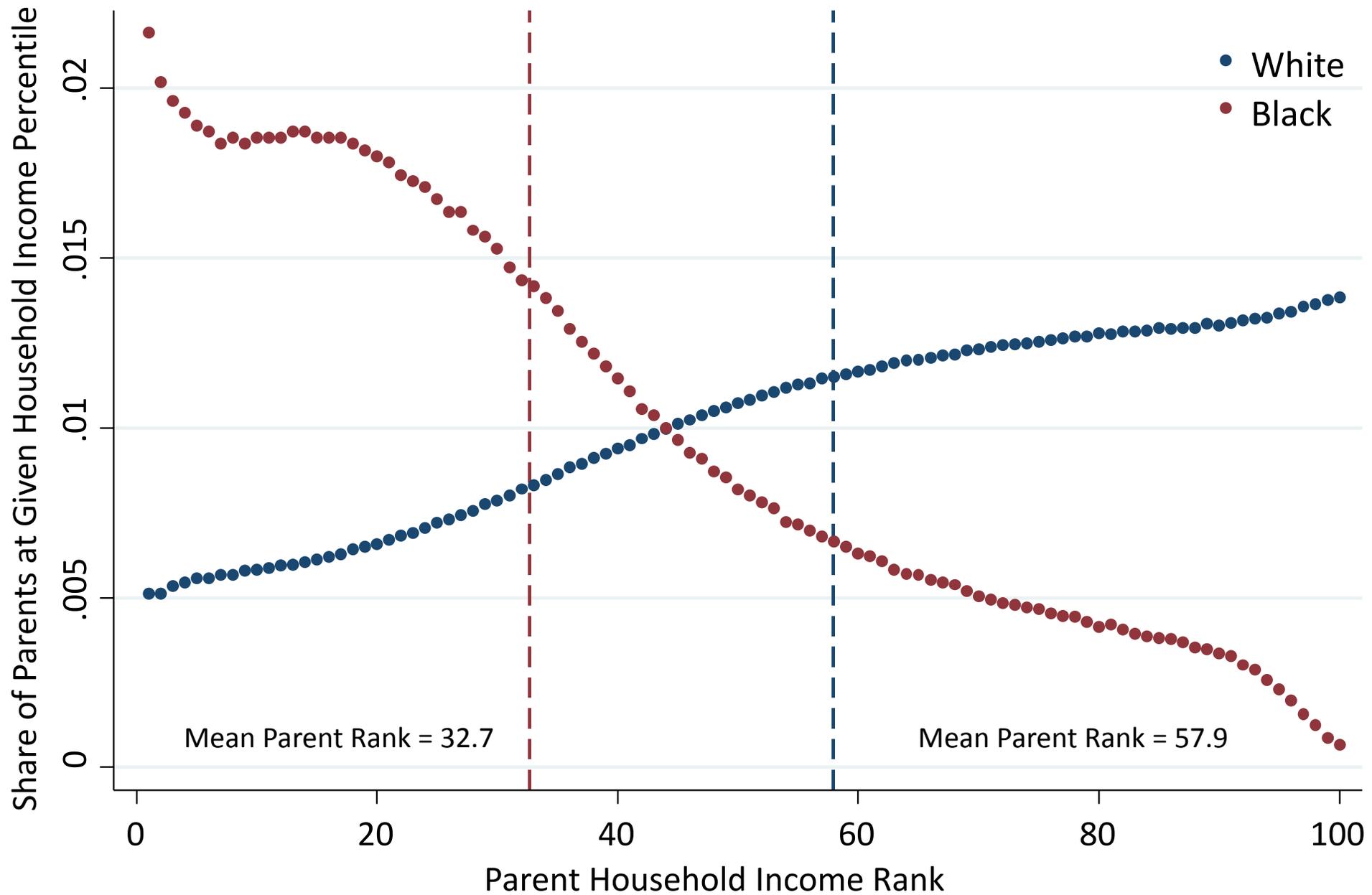
1. Mobility into and out of poverty is a central determinant of racial disparities
2. Commonly proposed policies likely to be insufficient to close black-white gap by themselves
  - Changes in transfer programs and minimum wages unlikely to have persistent effects, unless they change rates of mobility [Cameron and Heckman 2001]
  - Reducing residential or school segregation can improve the *level* of outcomes of both black and white children, but may not narrow gaps

## Conclusions

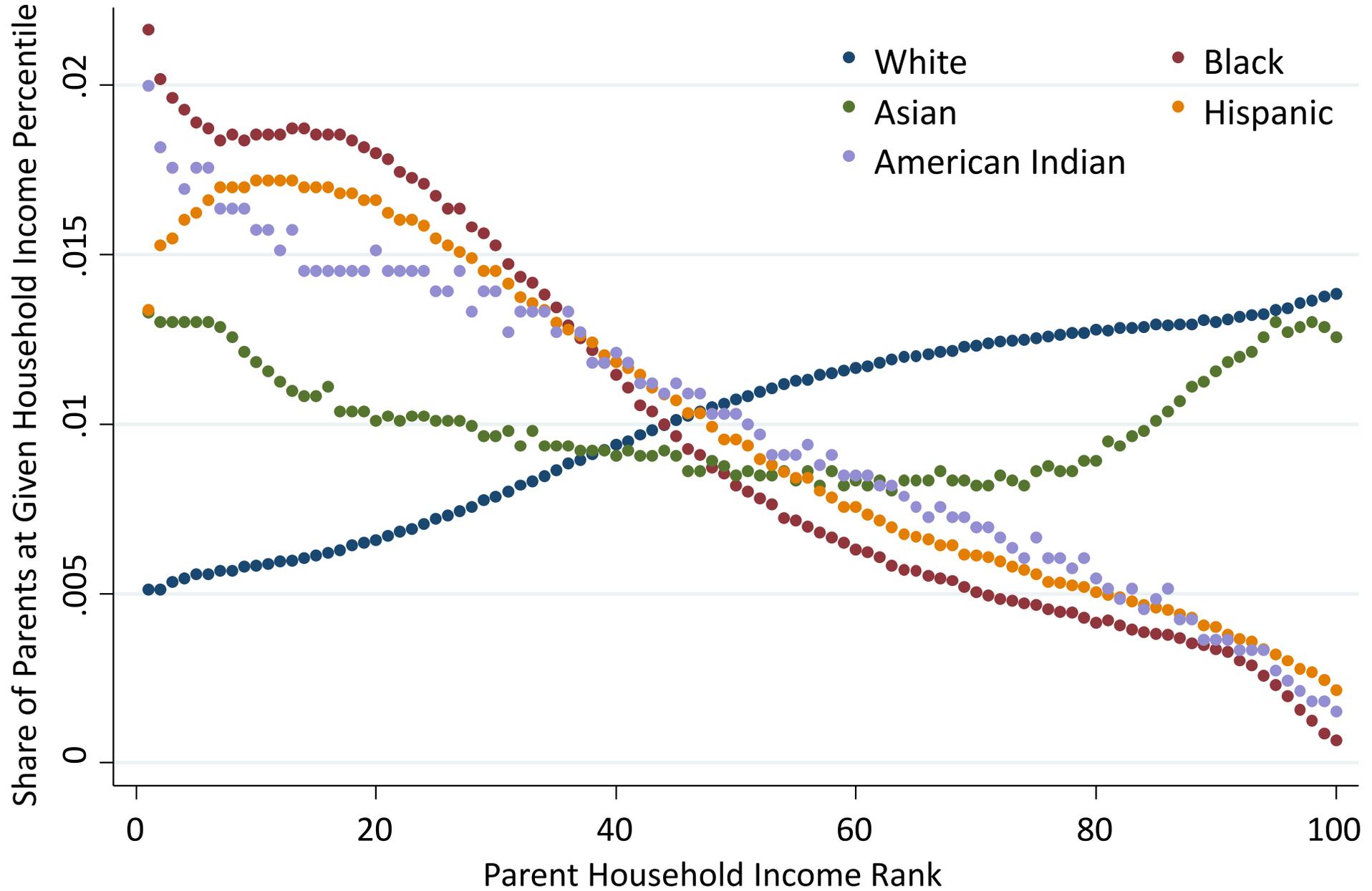
1. Mobility into and out of poverty is a central determinant of racial disparities
2. Commonly proposed policies likely to be insufficient to close black-white gap by themselves
3. Reducing racial gaps requires policies that cut *within* neighborhoods and improves environments for specific subgroups, such as black males
  - Ex: Mentoring programs, efforts to reduce racial bias, achieving racial integration within schools, criminal justice reform [Heller et al. 2015, Devine et al. 2012]
  - Further development and evaluation of such efforts would be valuable

# Supplementary Figures

# Density of Parent Household Income Ranks, White and Black Children

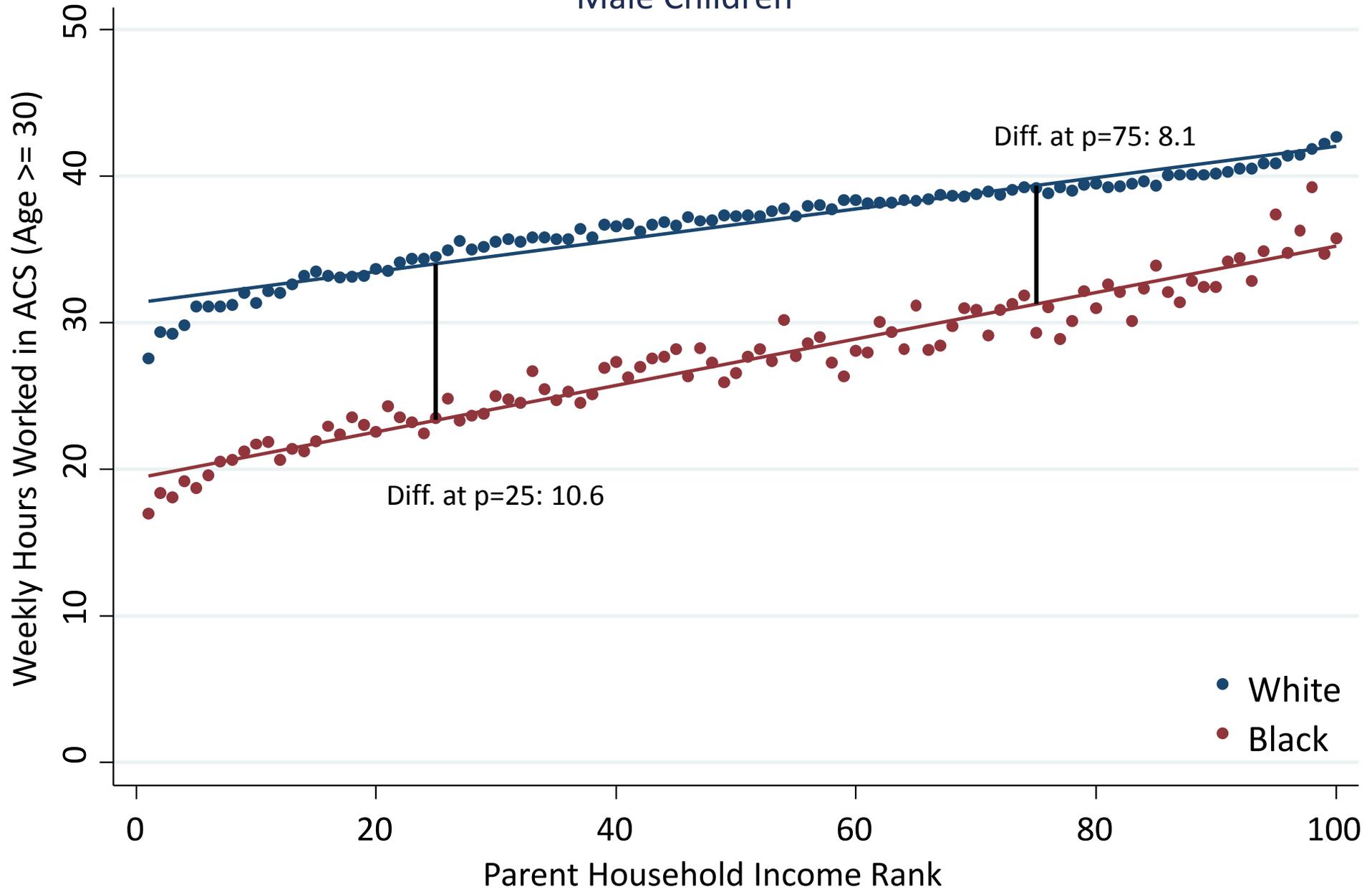


# Density of Parent Household Income Ranks by Race



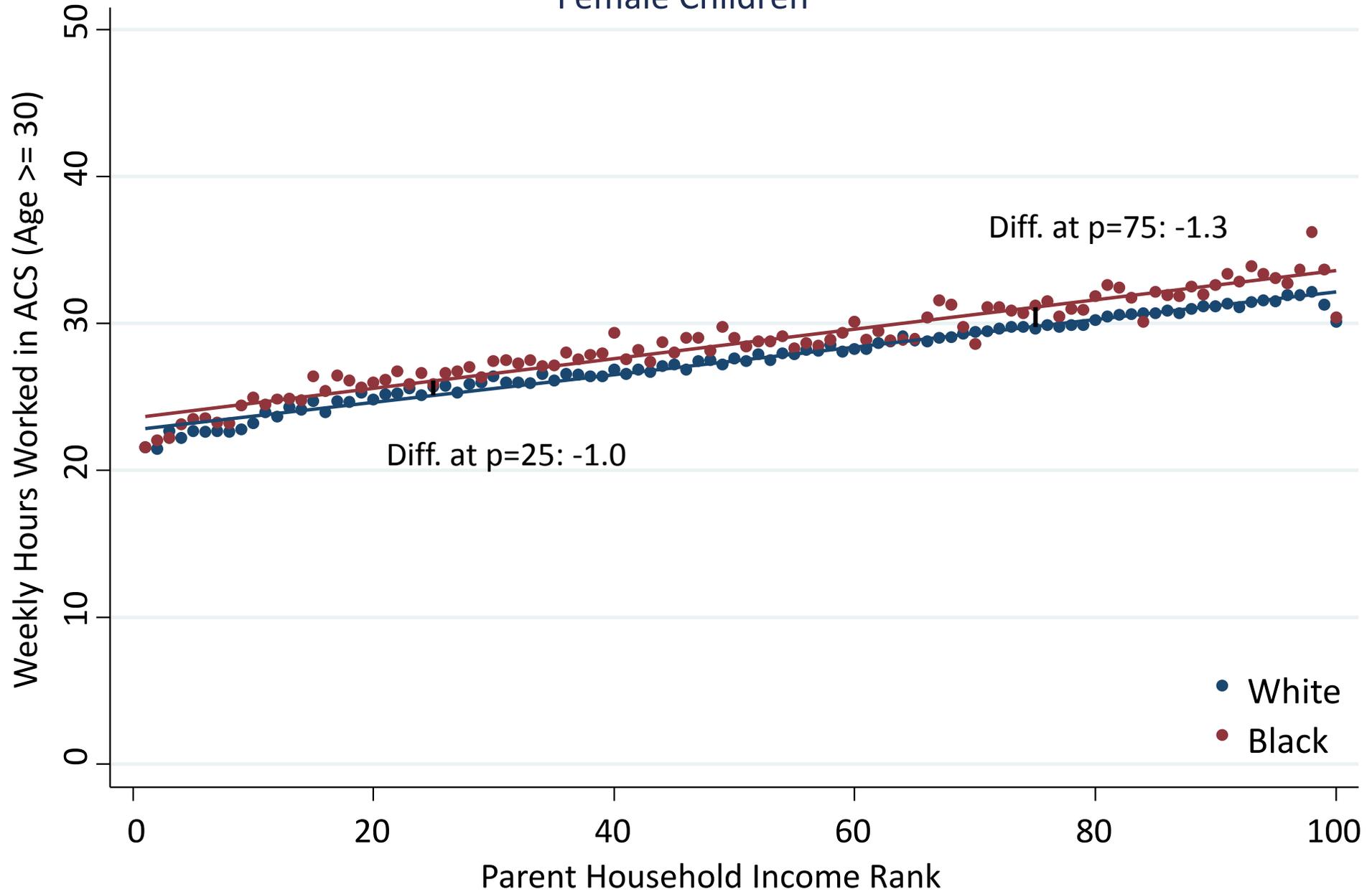
# Hours Worked vs. Parent Income Rank

## Male Children



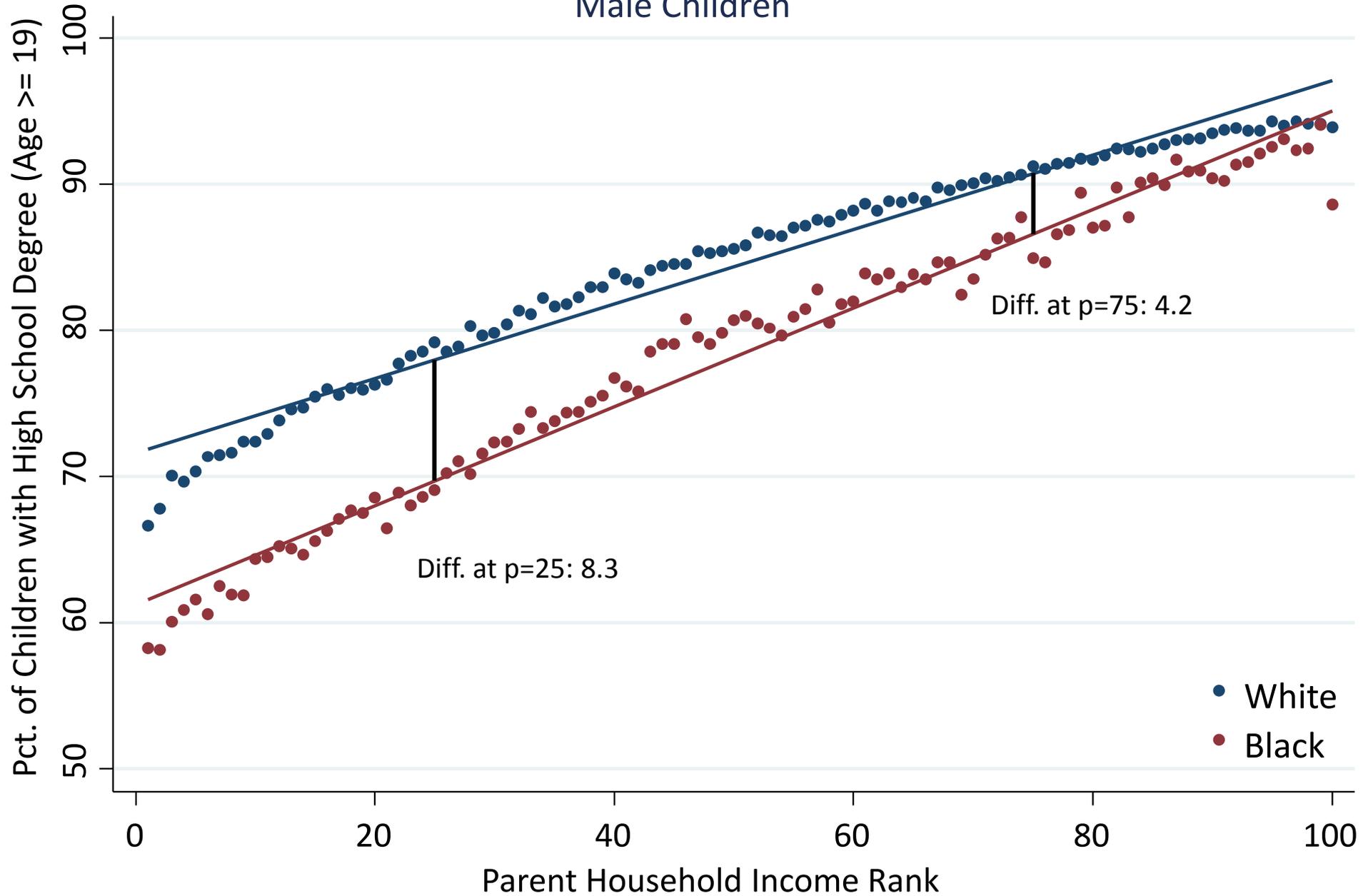
# Hours Worked vs. Parent Income Rank

## Female Children



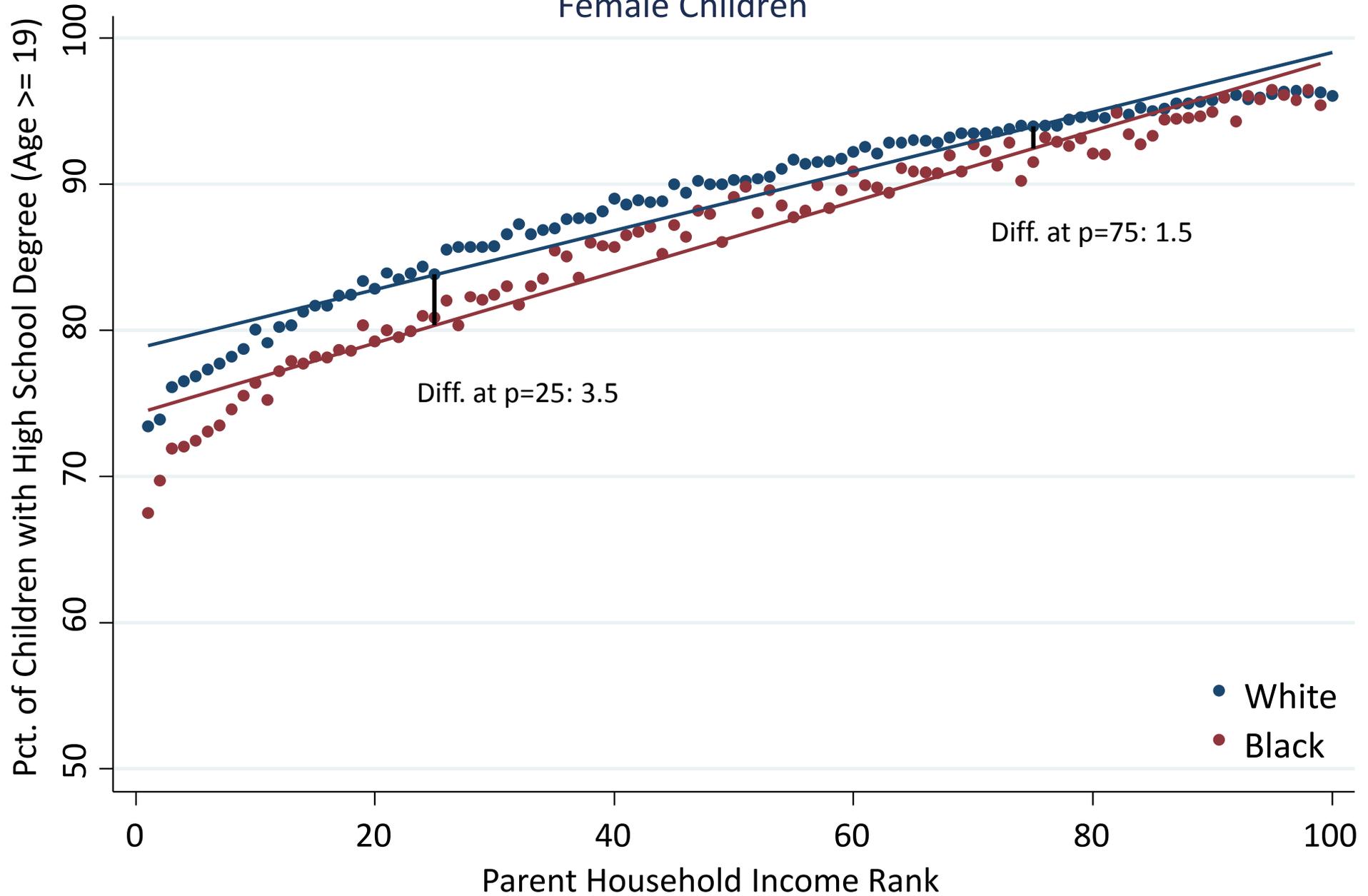
# High School Completion Rates vs. Parent Income Rank

## Male Children



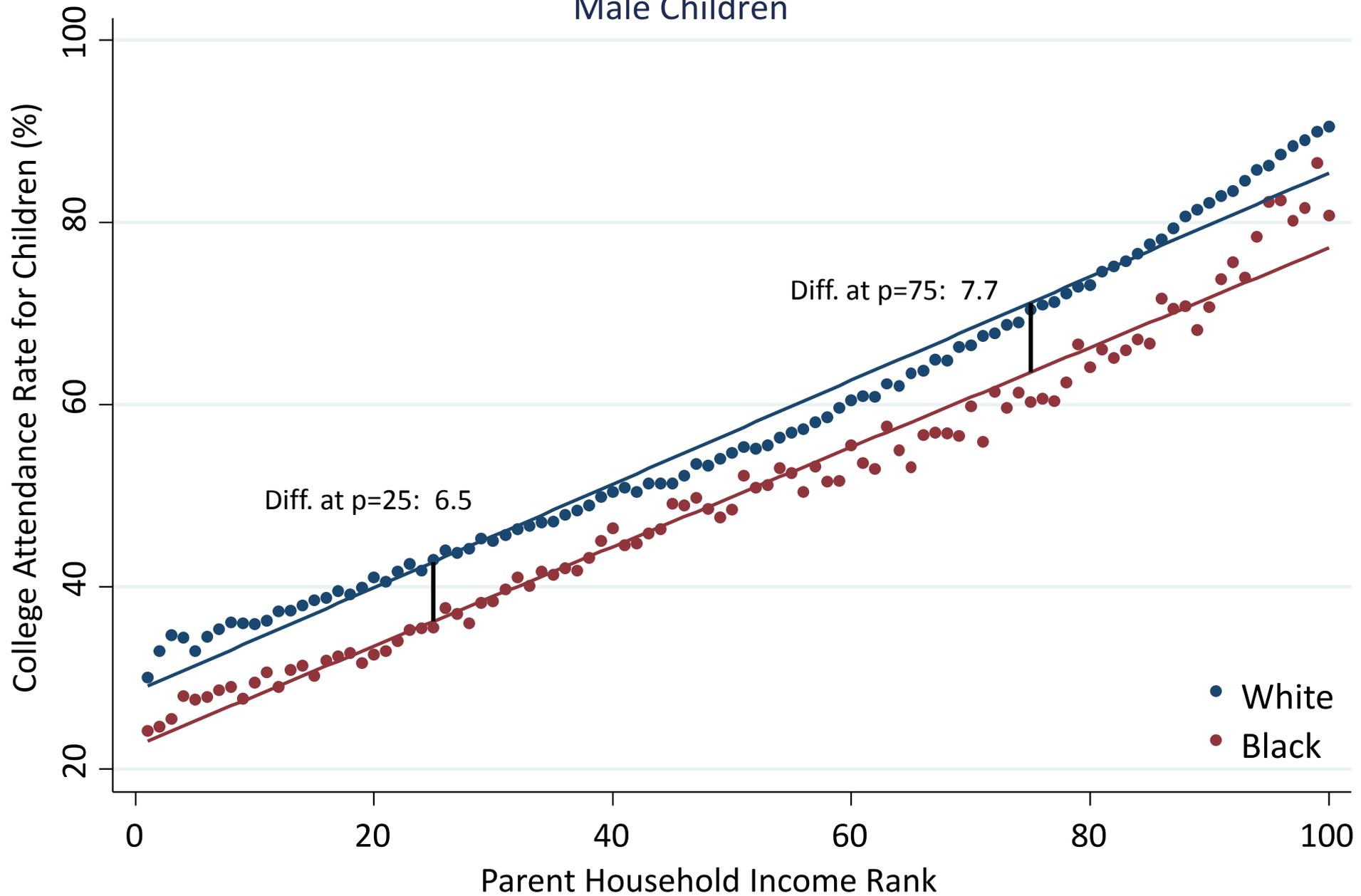
# High School Completion Rates vs. Parent Income Rank

## Female Children



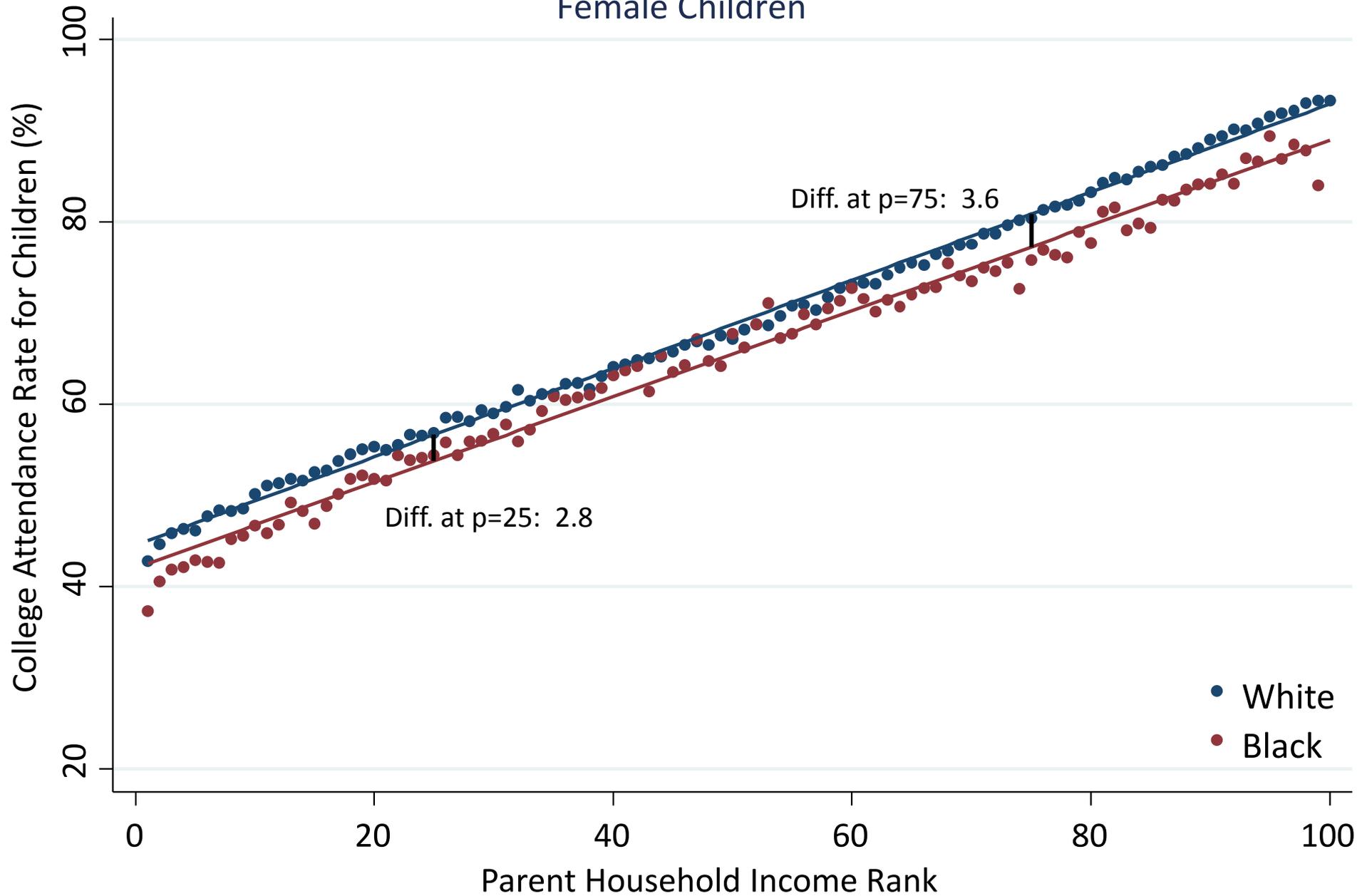
# College Attendance Rates vs. Parent Income Rank

Male Children



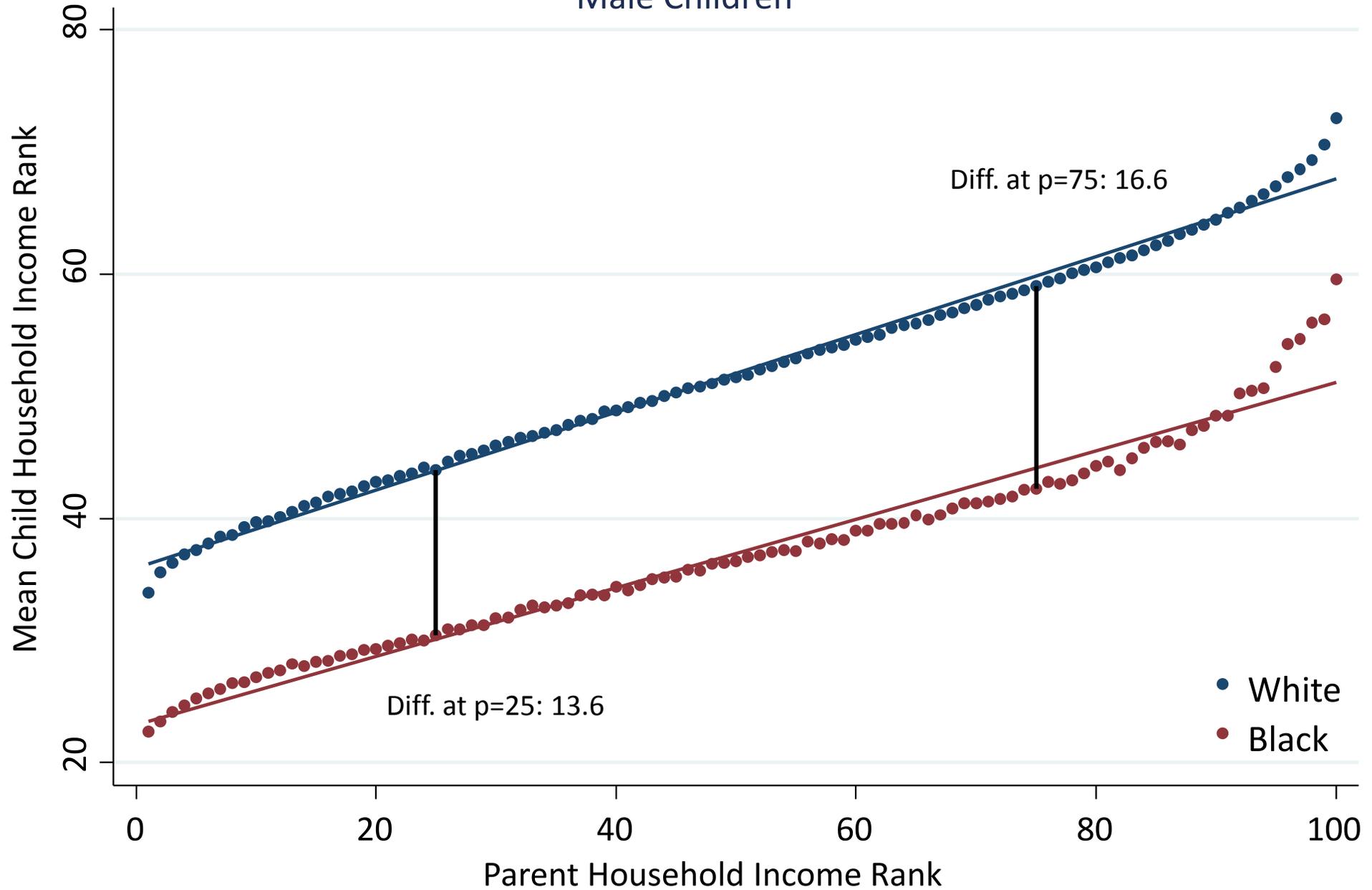
# College Attendance Rates vs. Parent Income Rank

## Female Children



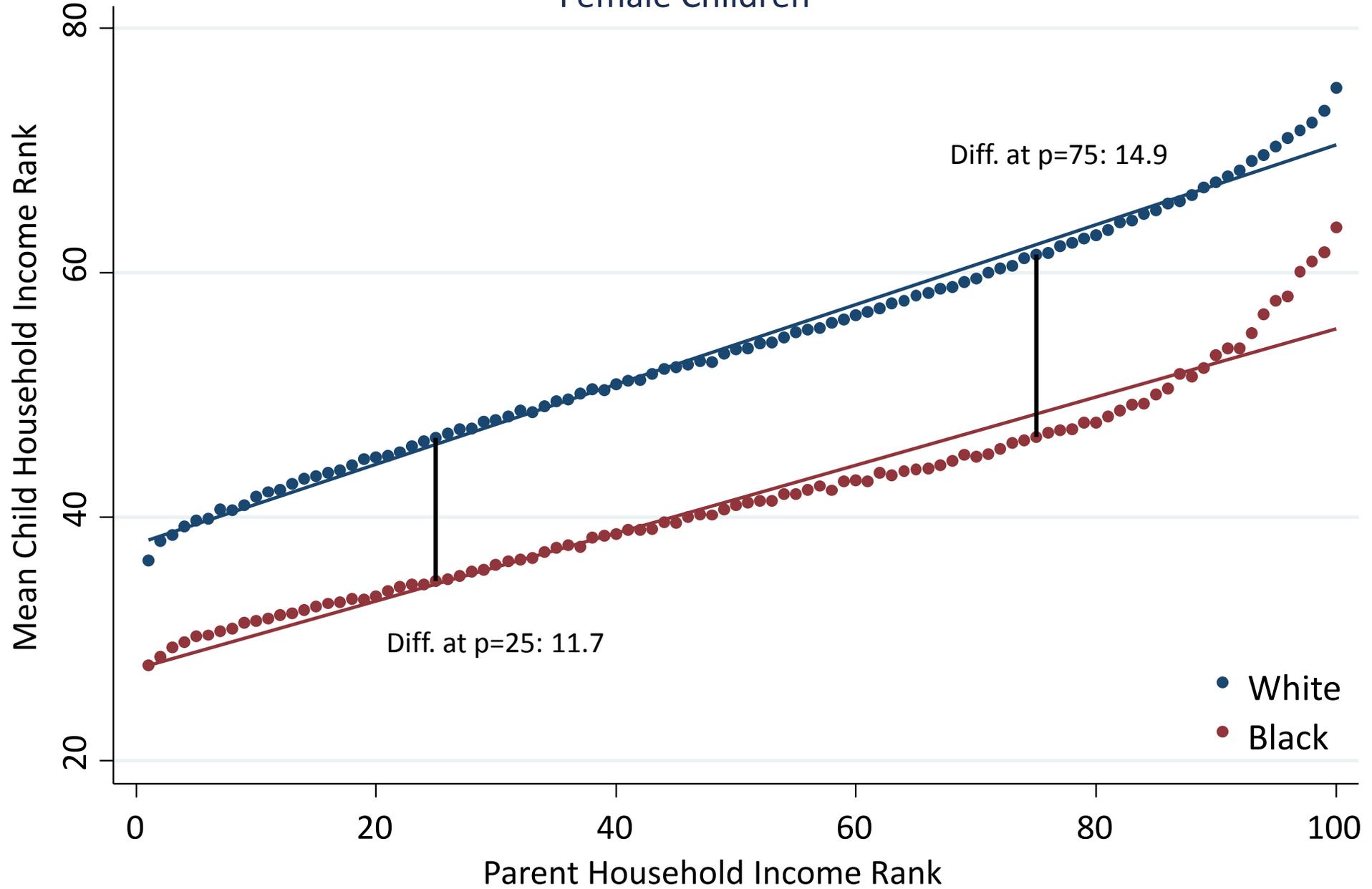
# Household Income Rank vs. Parent Income Rank

## Male Children



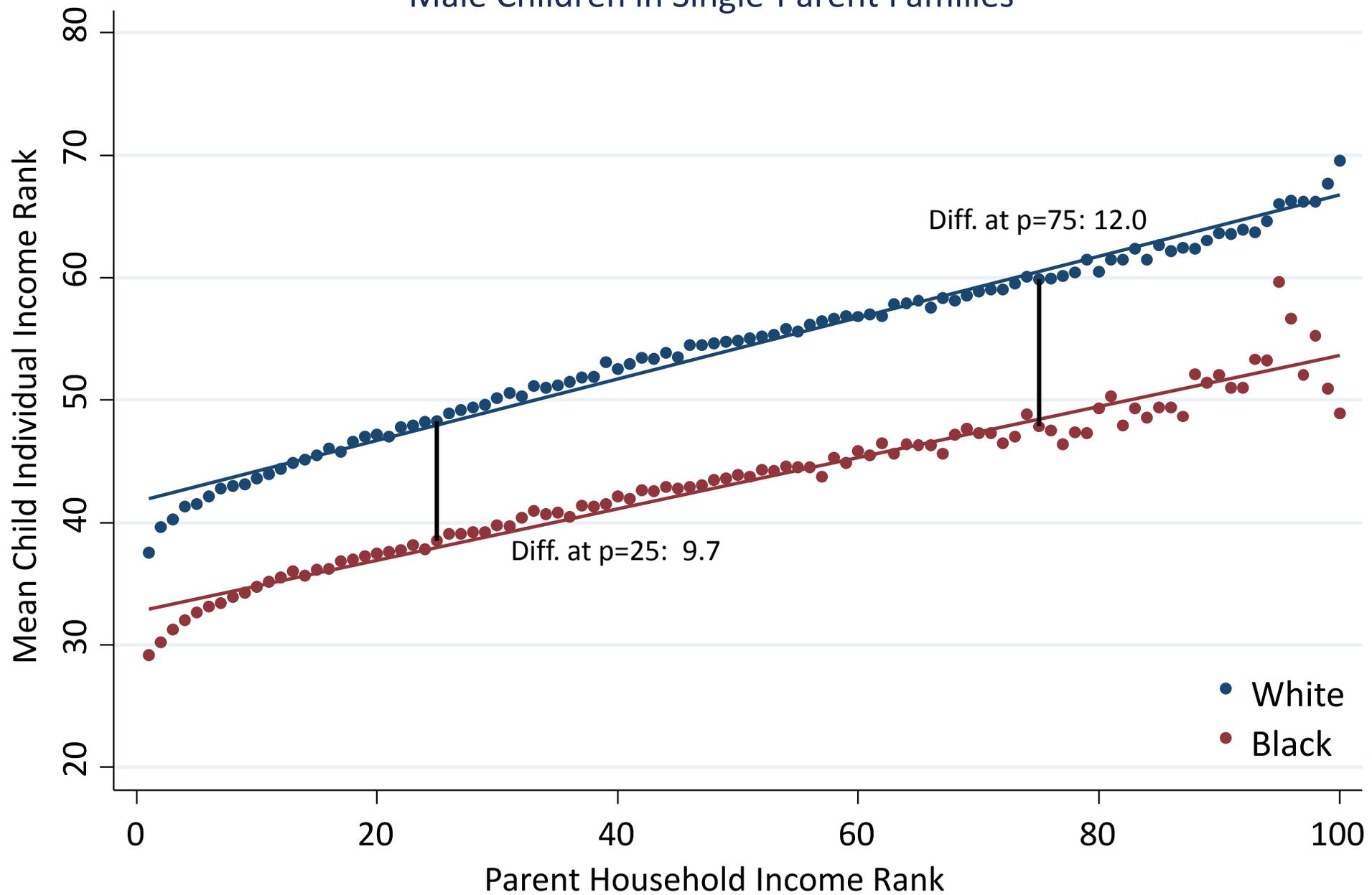
# Household Income Rank vs. Parent Income Rank

## Female Children



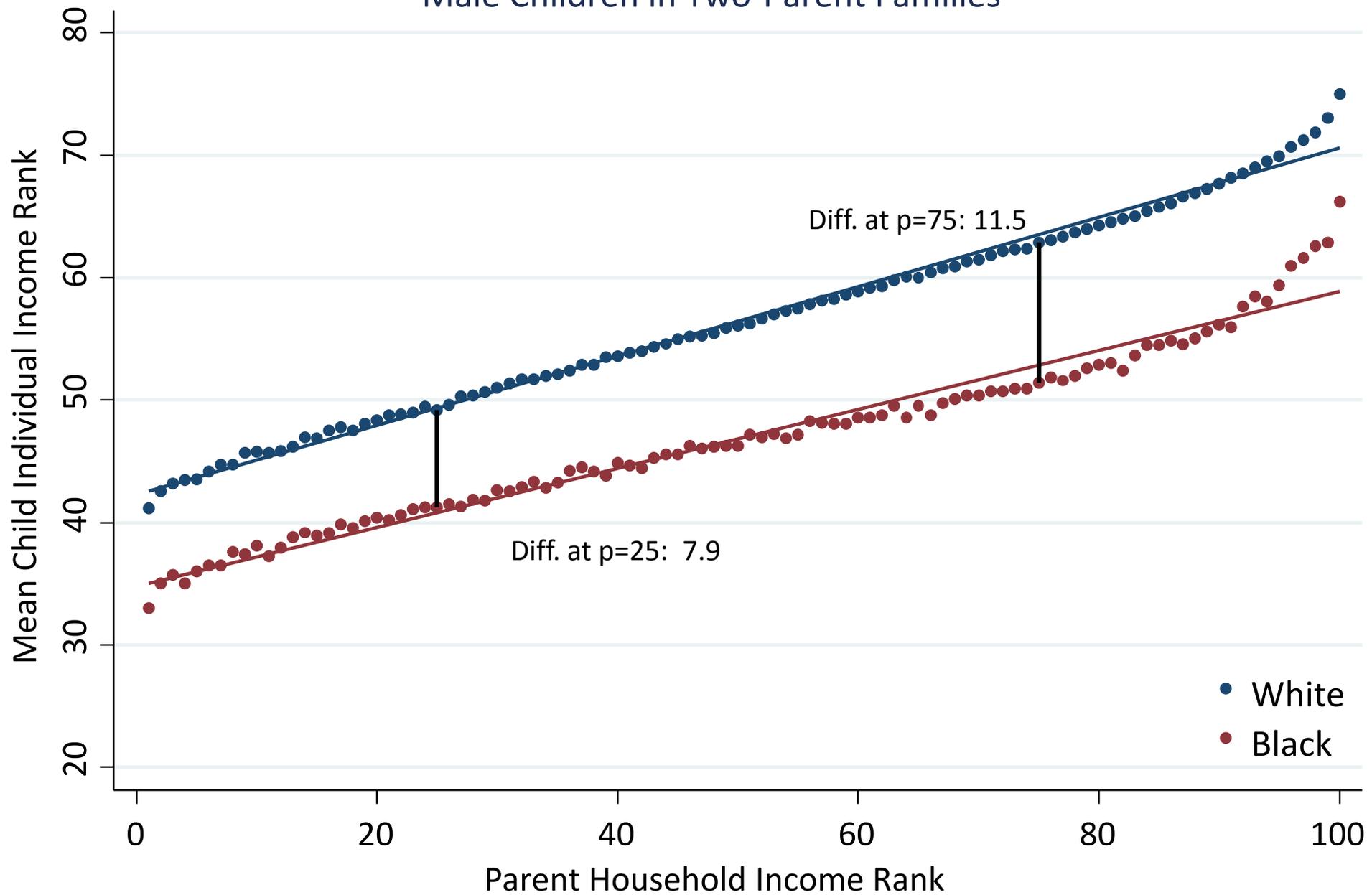
# Black-White Gap in Child Individual Income Rank vs. Parent Income Rank

## Male Children in Single-Parent Families



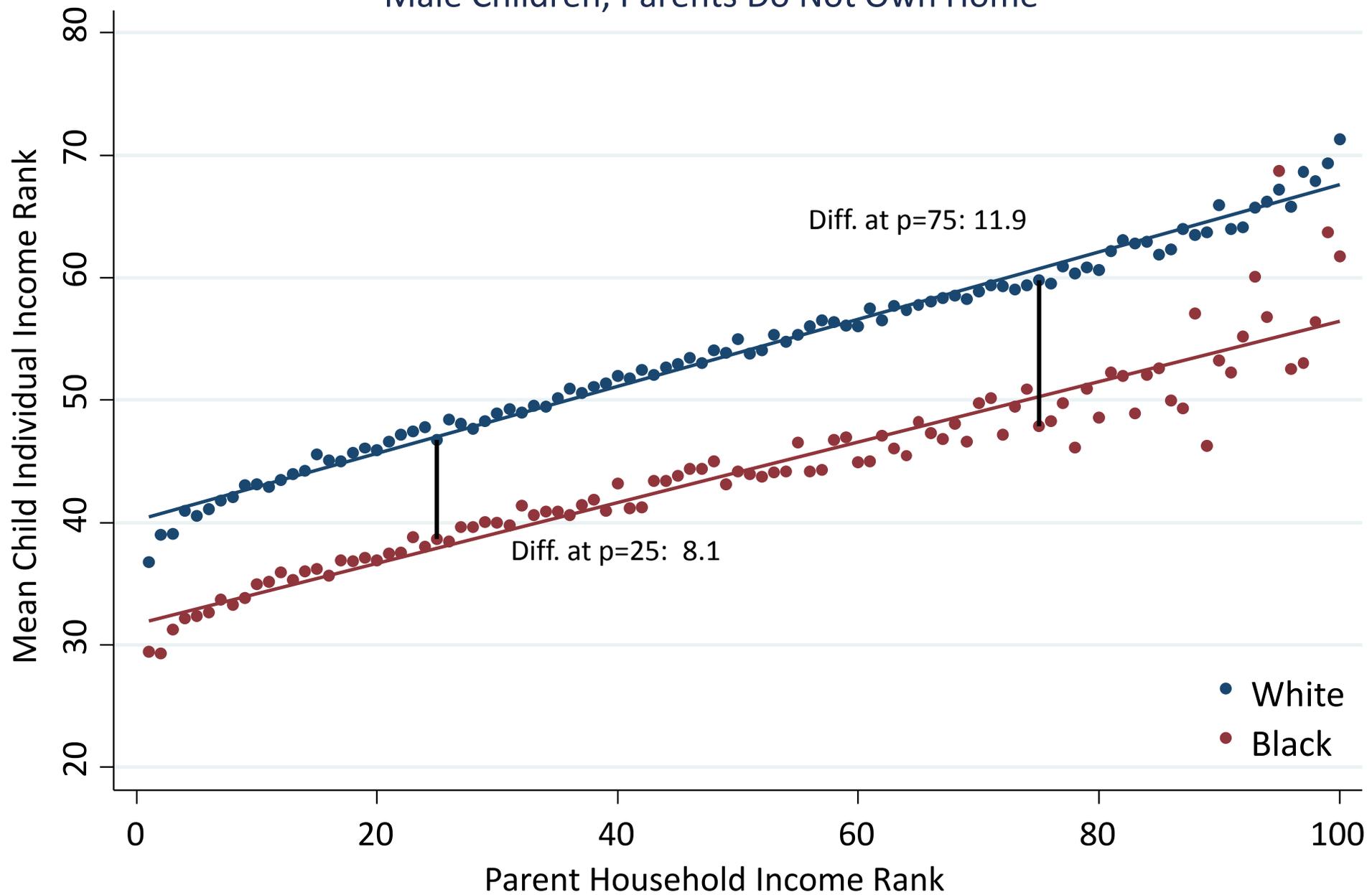
# Black-White Gap in Child Individual Income Rank vs. Parent Income Rank

## Male Children in Two-Parent Families



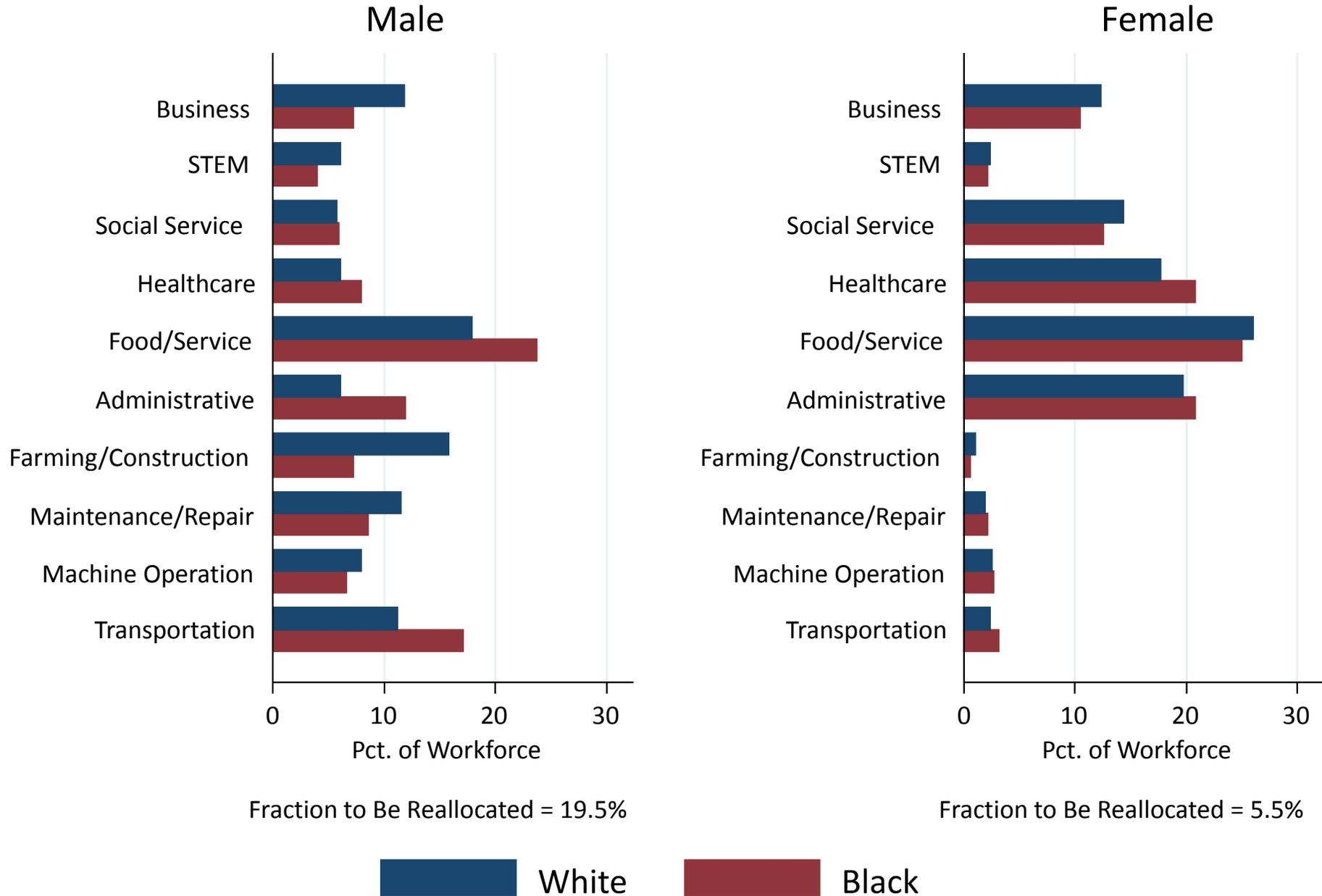
# Black-White Gap in Child Individual Income Rank vs. Parent Income Rank

Male Children, Parents Do Not Own Home



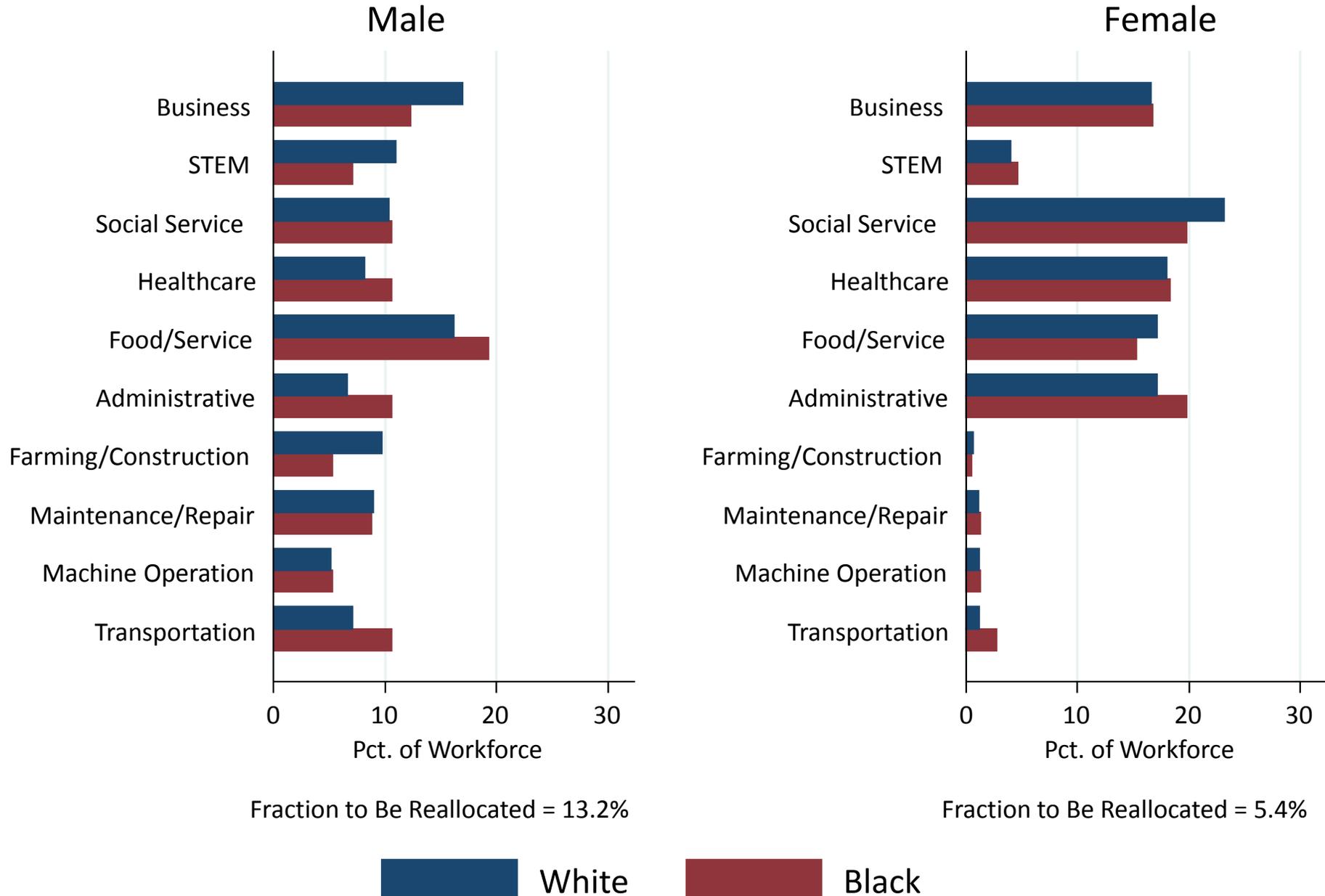
# Occupational Distributions Conditional on Parent Income, by Gender

## Black and White Children, Parents in 3<sup>rd</sup> Income Decile



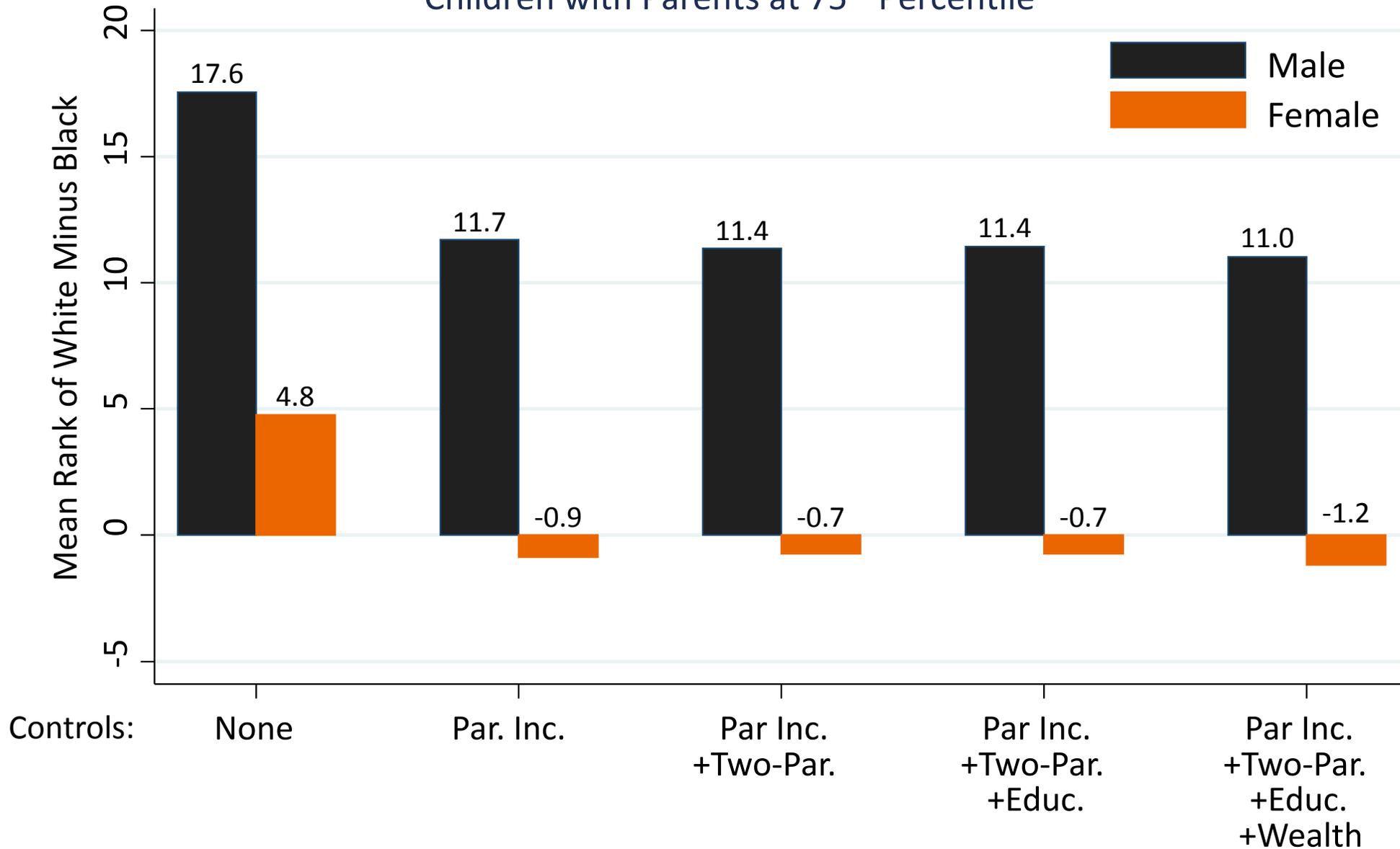
# Occupational Distributions Conditional on Parent Income, by Gender

## Black and White Children, Parents in 8<sup>th</sup> Income Decile

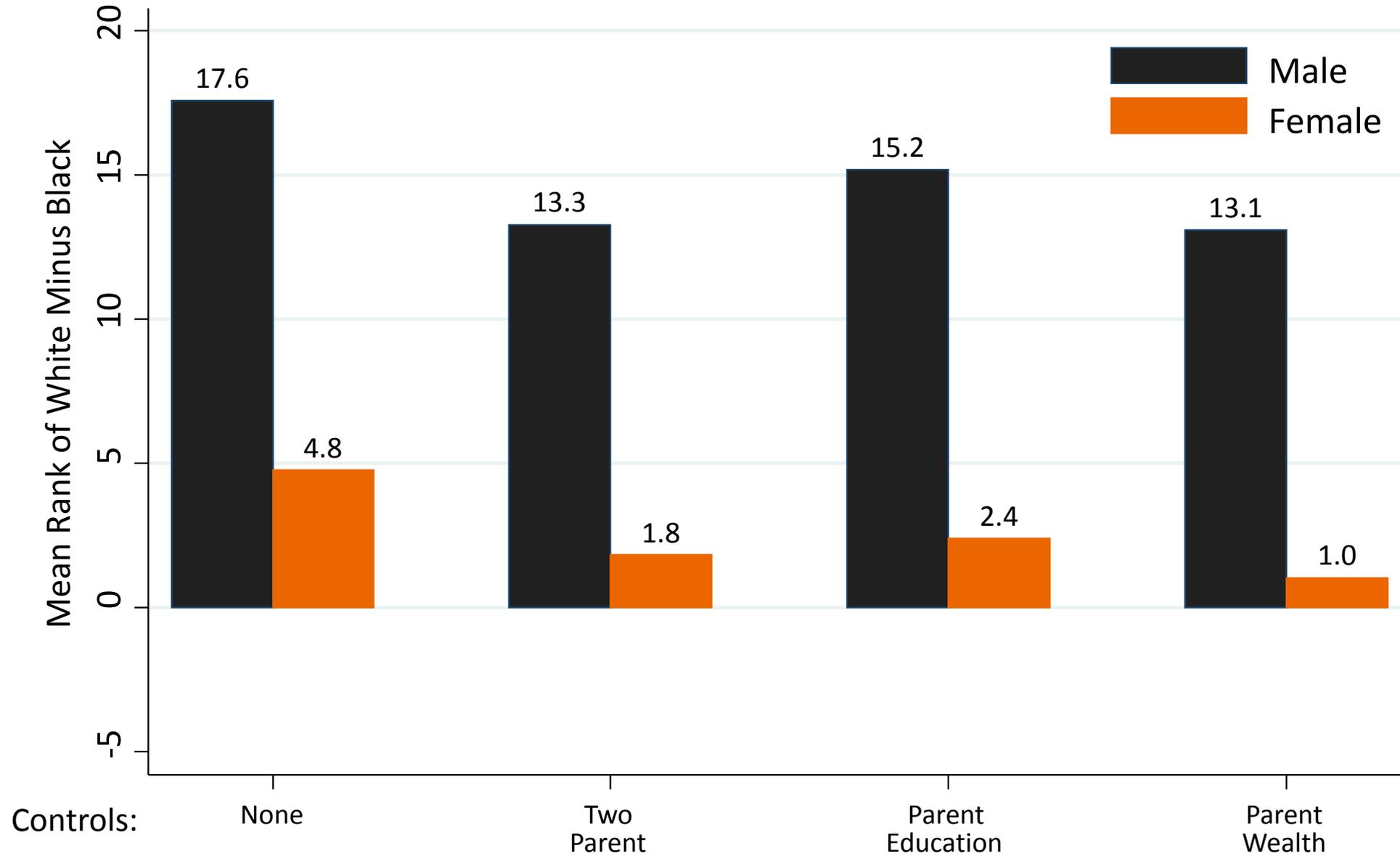


# Effects of Family-Level Factors on the Black-White Income Gap

Children with Parents at 75<sup>th</sup> Percentile

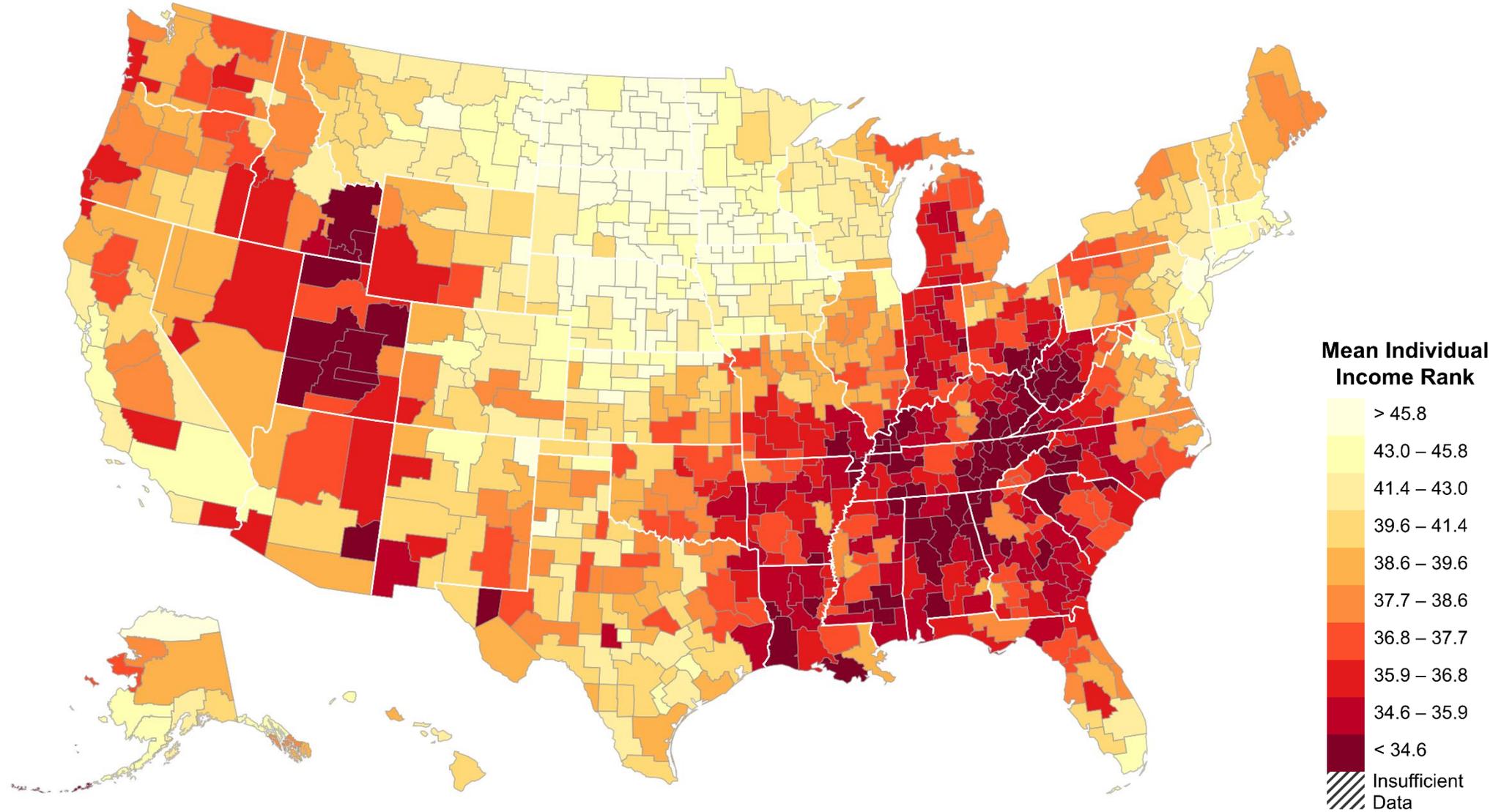


## Effects of Family-Level Factors on the Unconditional Black-White Gap



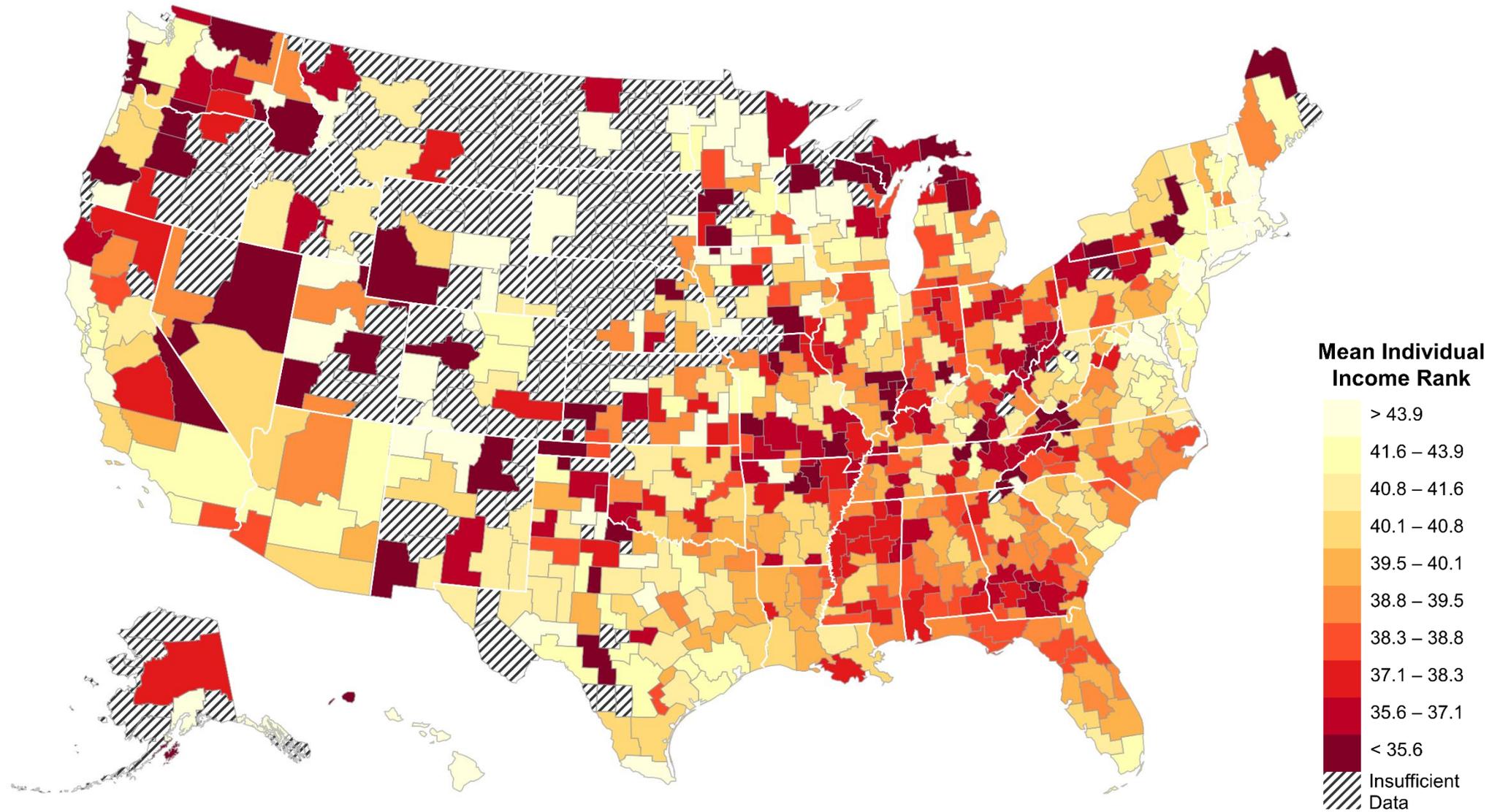
# Mean Child Individual Income Rank by CZ

## White Females with Parents at 25<sup>th</sup> Percentile



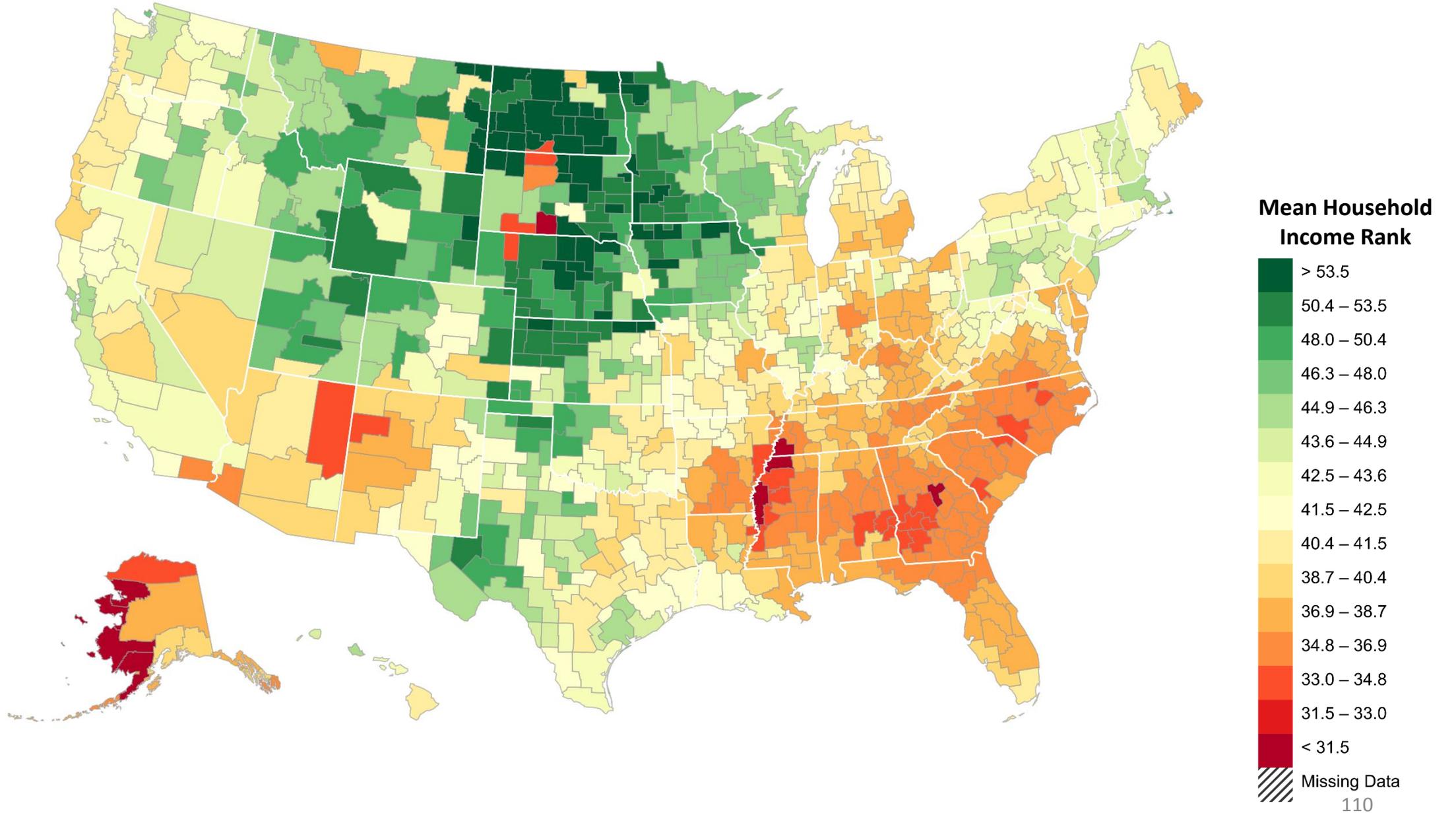
# Mean Child Individual Income Rank by CZ

## Black Females with Parents at 25<sup>th</sup> Percentile



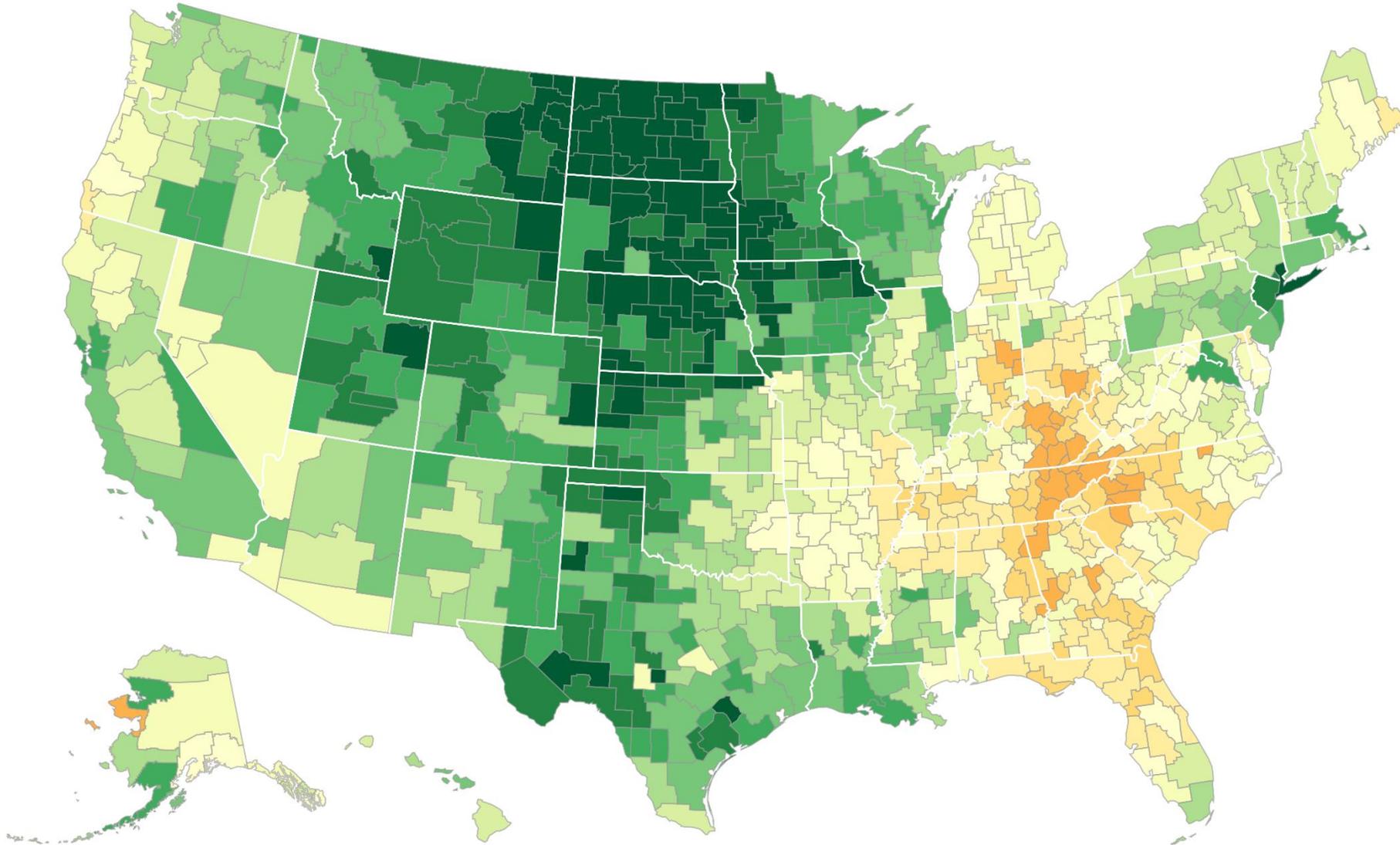
# Mean Child Household Income Rank Given Parents at 25<sup>th</sup> Percentile by CZ

## Full Population

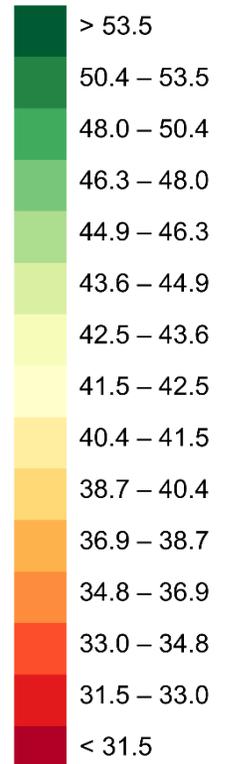


# Mean Child Household Income Rank Given Parents at 25<sup>th</sup> Percentile by CZ

## Whites



### Mean Household Income Rank

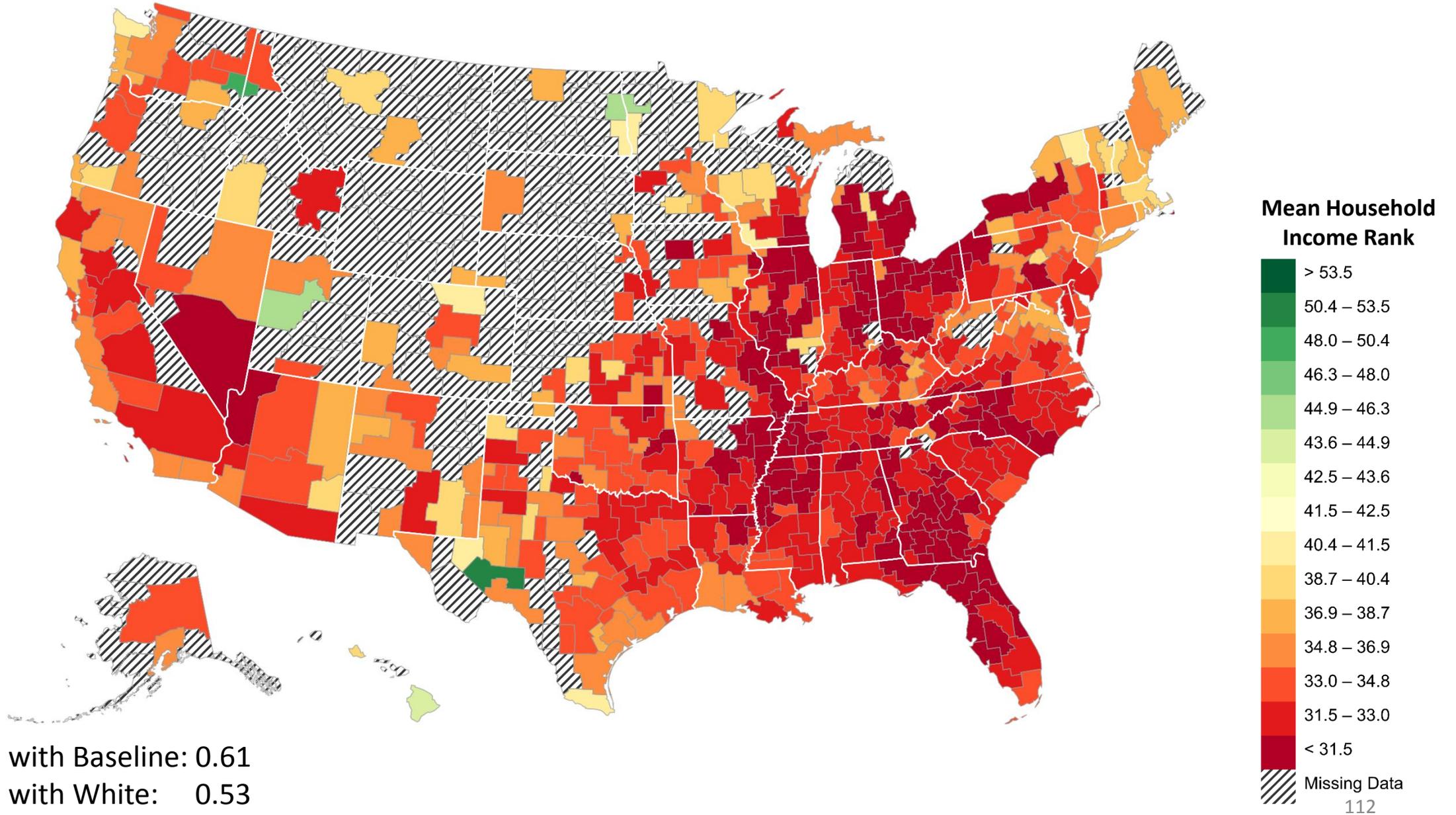


Missing Data  
111

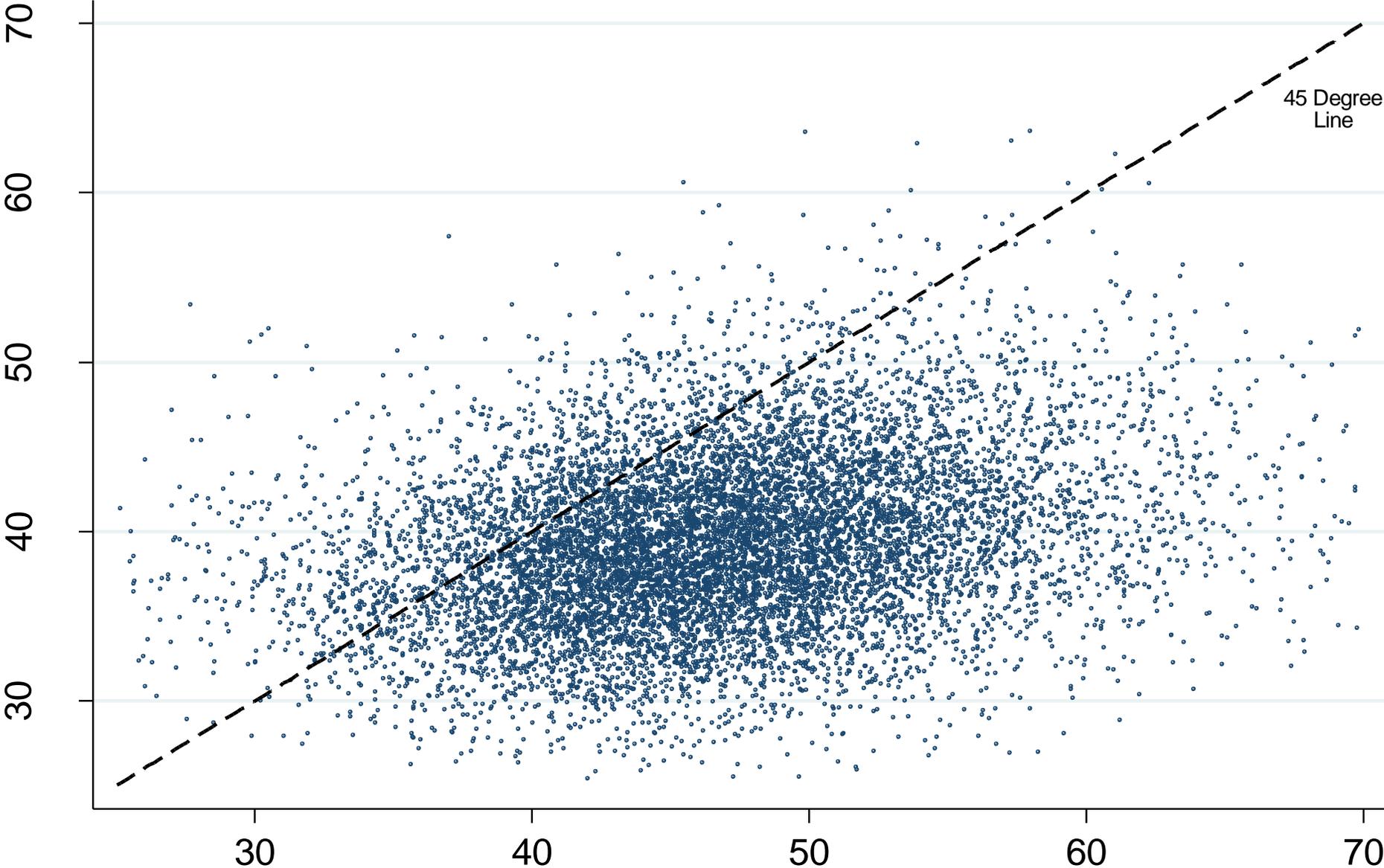
Correlation with Baseline: 0.77

# Mean Child Household Income Rank Given Parents at 25<sup>th</sup> Percentile by CZ

## Blacks



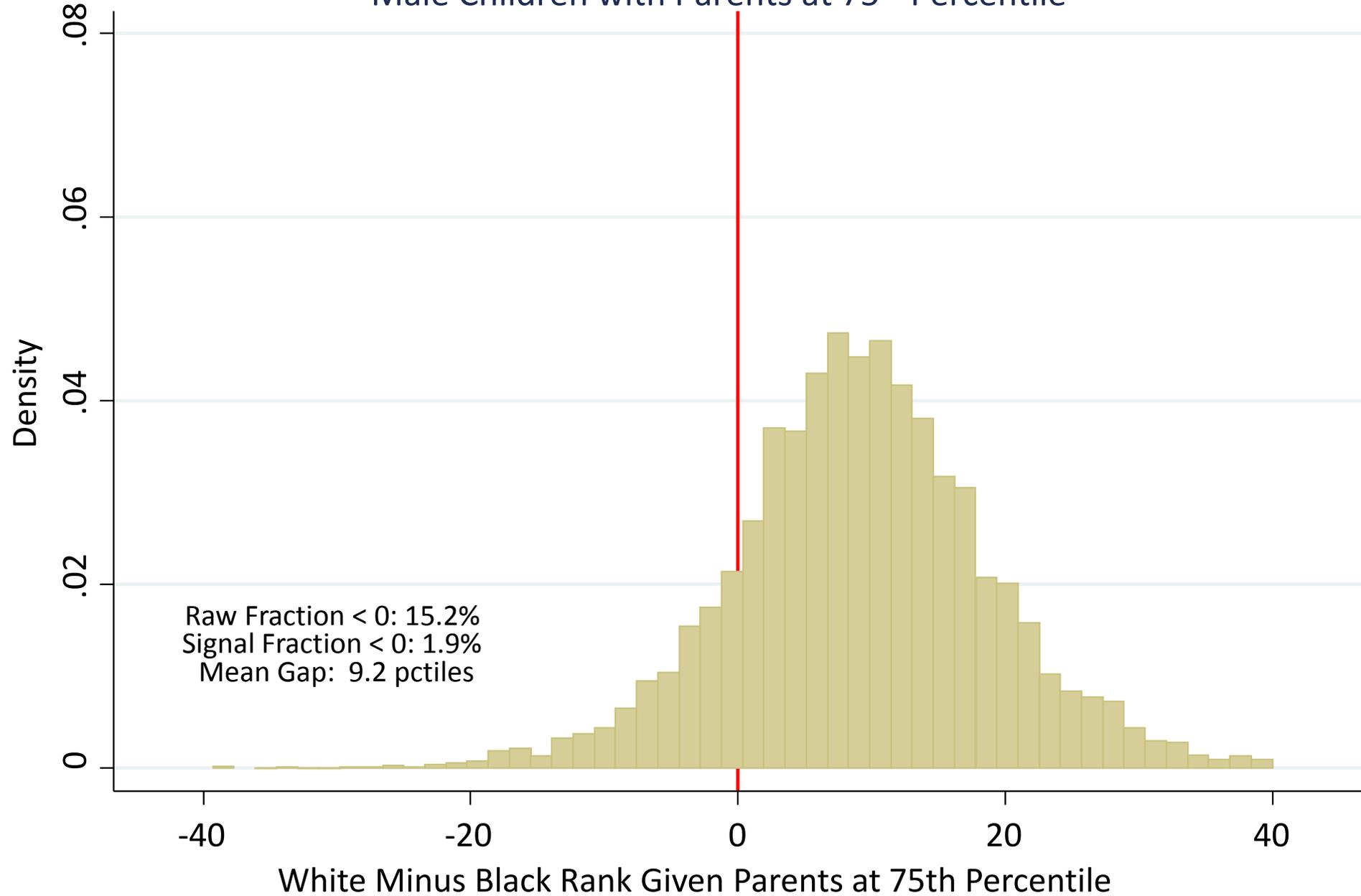
# Mean Child Individual Income Rank for Males with Parents at 25th Percentile



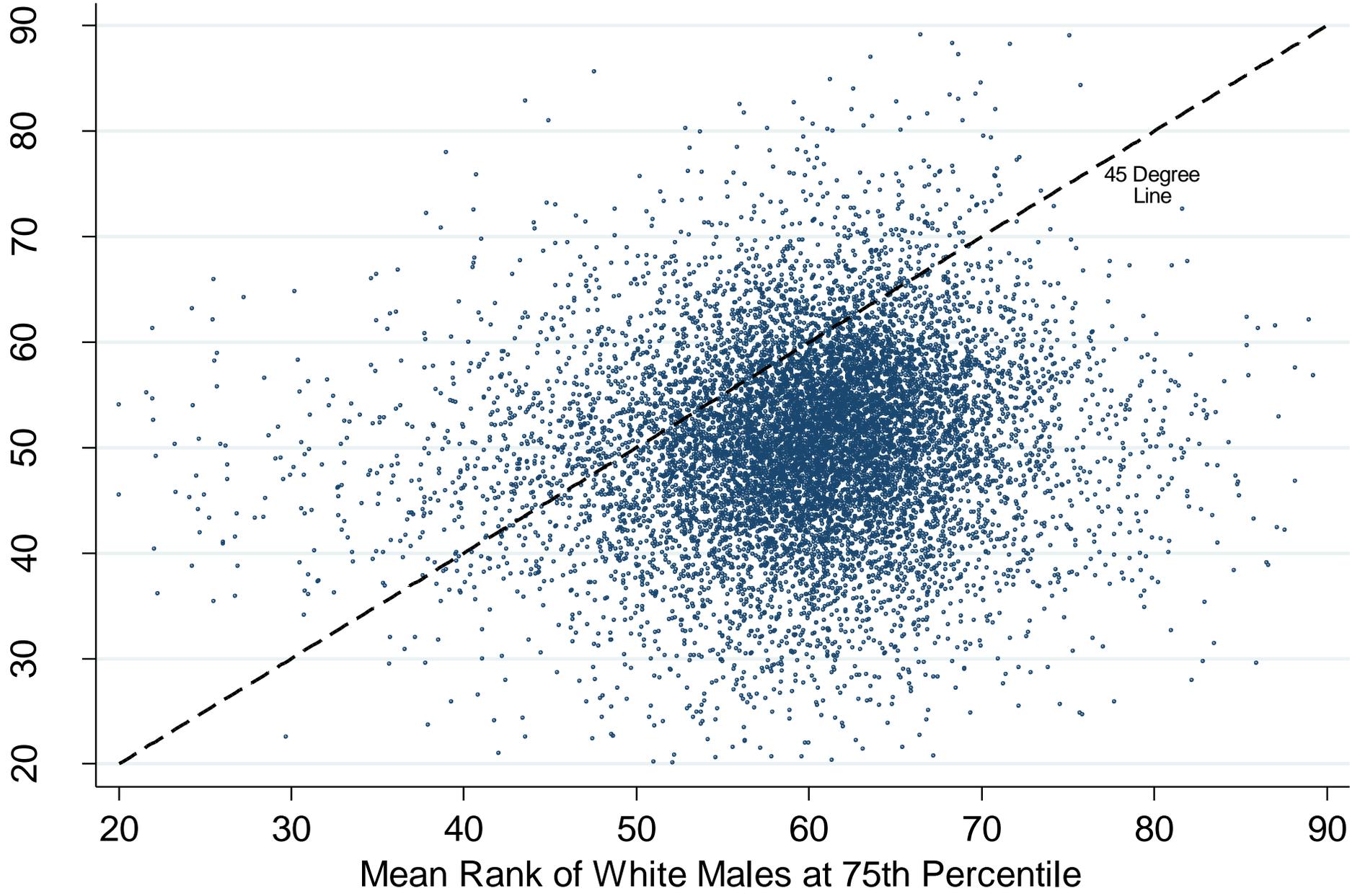
Mean Rank of White Males at 25th Percentile

# Distribution of Black – White Gap in Individual Ranks Across Tracts

Male Children with Parents at 75<sup>th</sup> Percentile

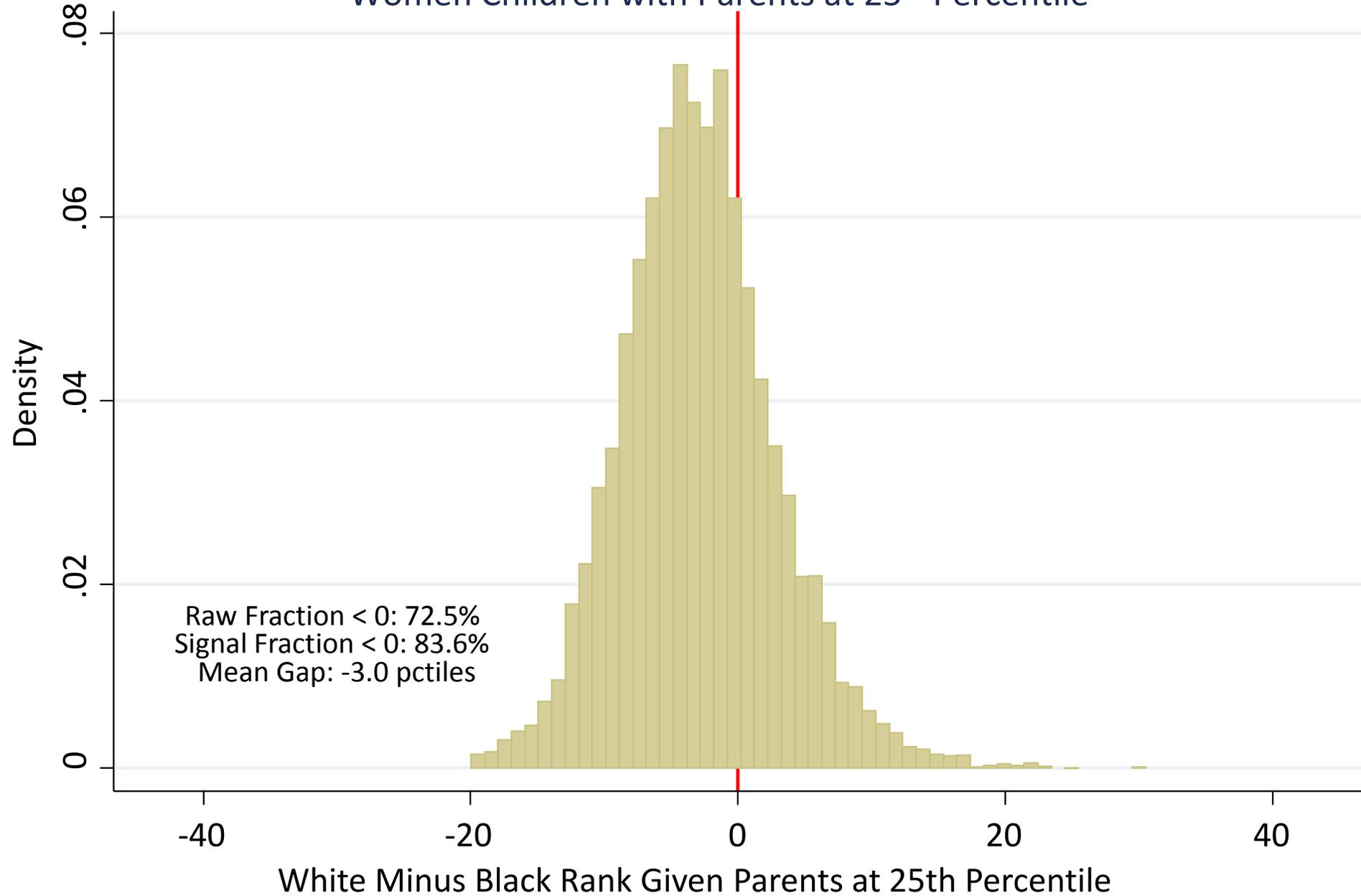


# Mean Child Individual Income Rank for Males with Parents at 75th Percentile



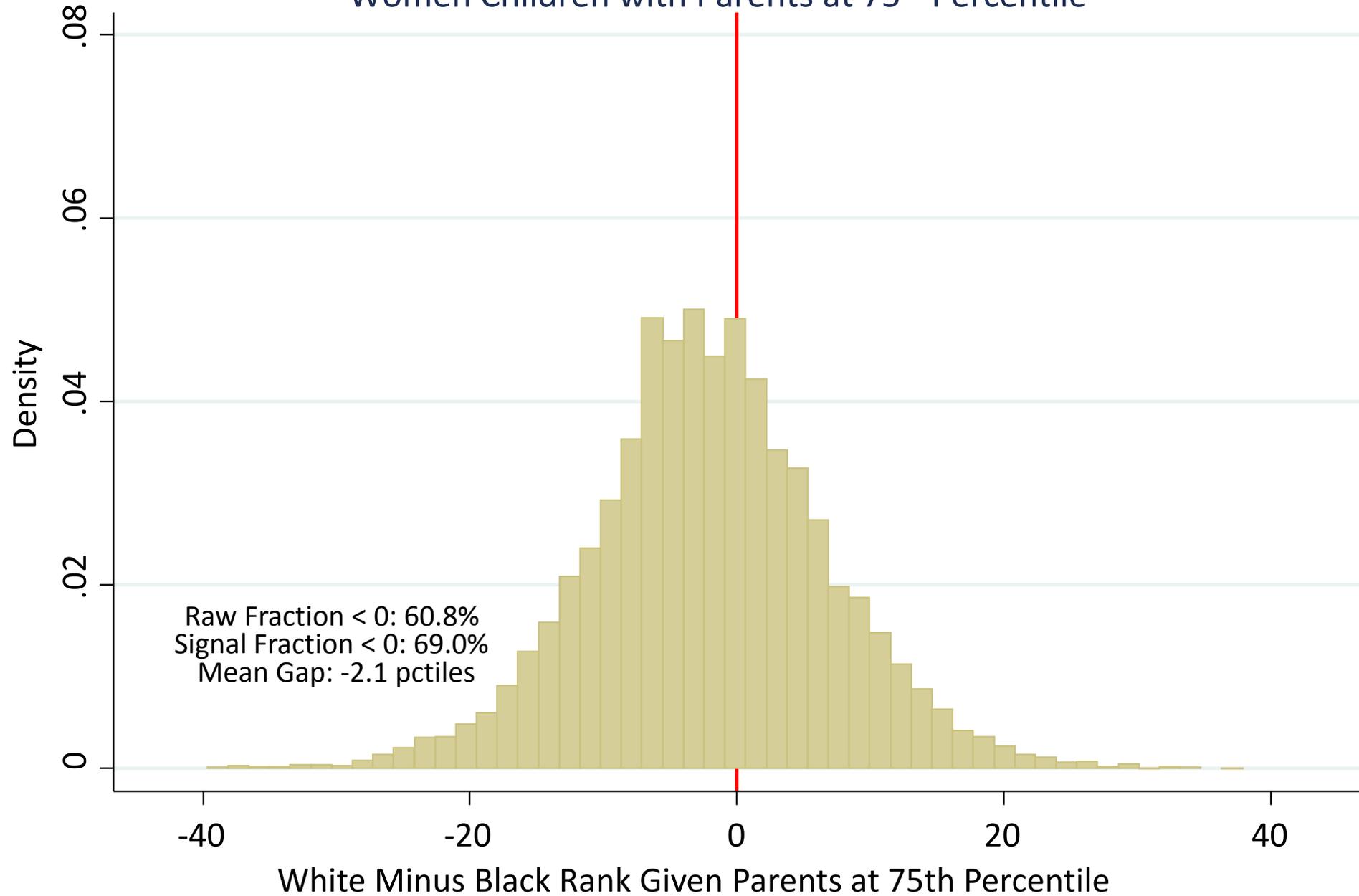
# Distribution of Black – White Gap in Individual Ranks Across Tracts

Women Children with Parents at 25<sup>th</sup> Percentile

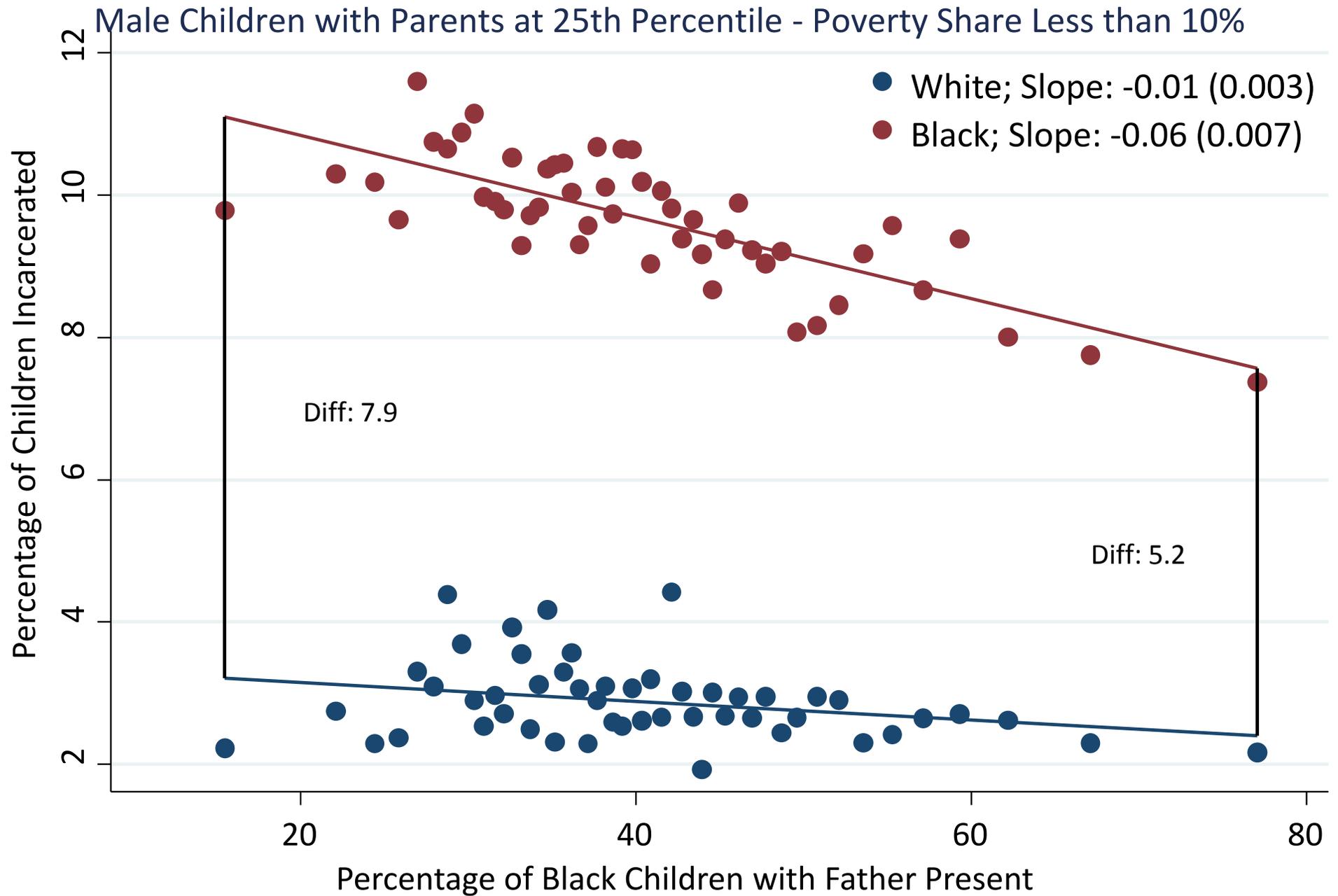


# Distribution of Black – White Gap in Individual Ranks Across Tracts

Women Children with Parents at 75<sup>th</sup> Percentile

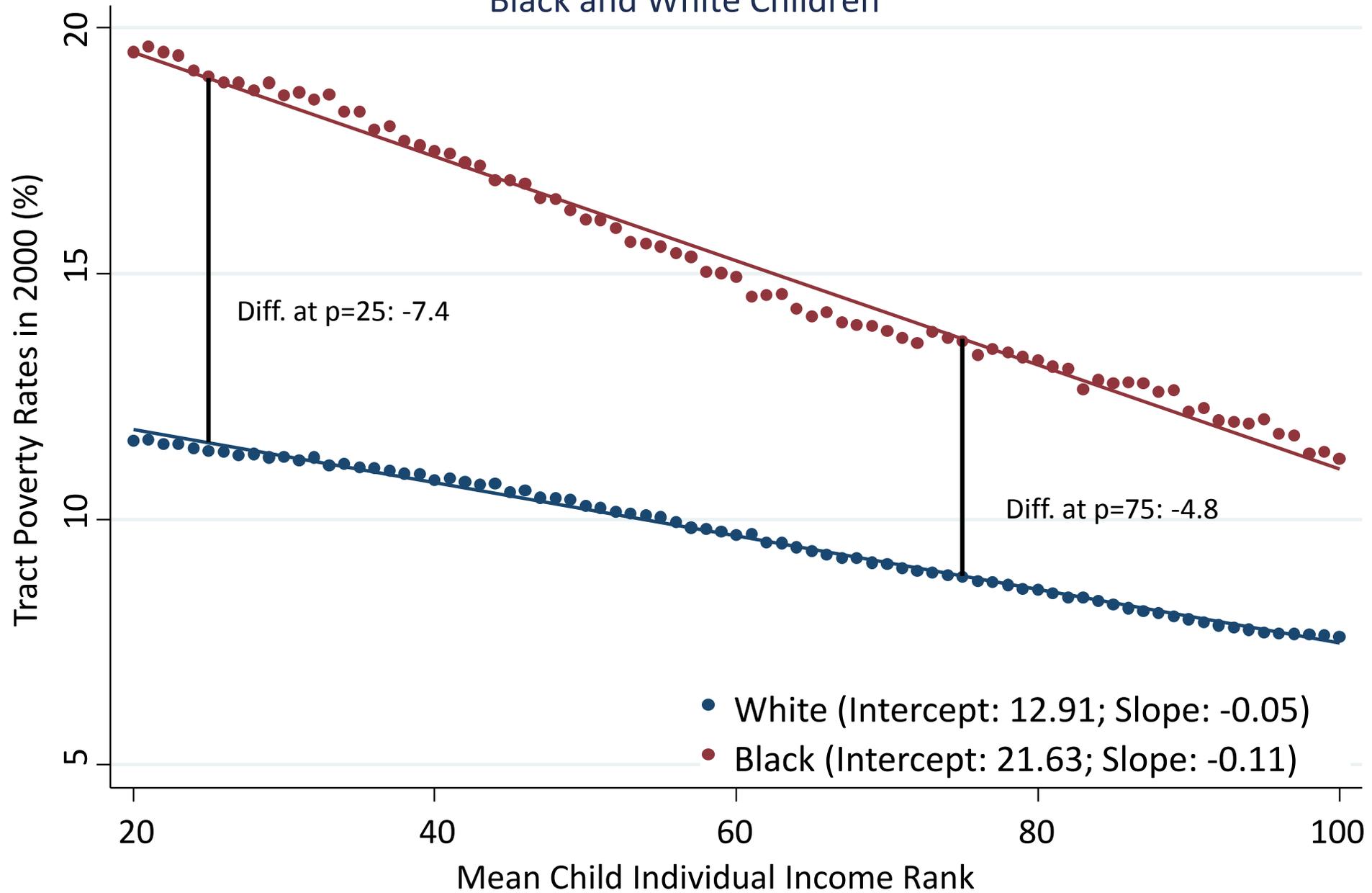


# Black-White Gap in Incarceration Rate vs. Father Presence



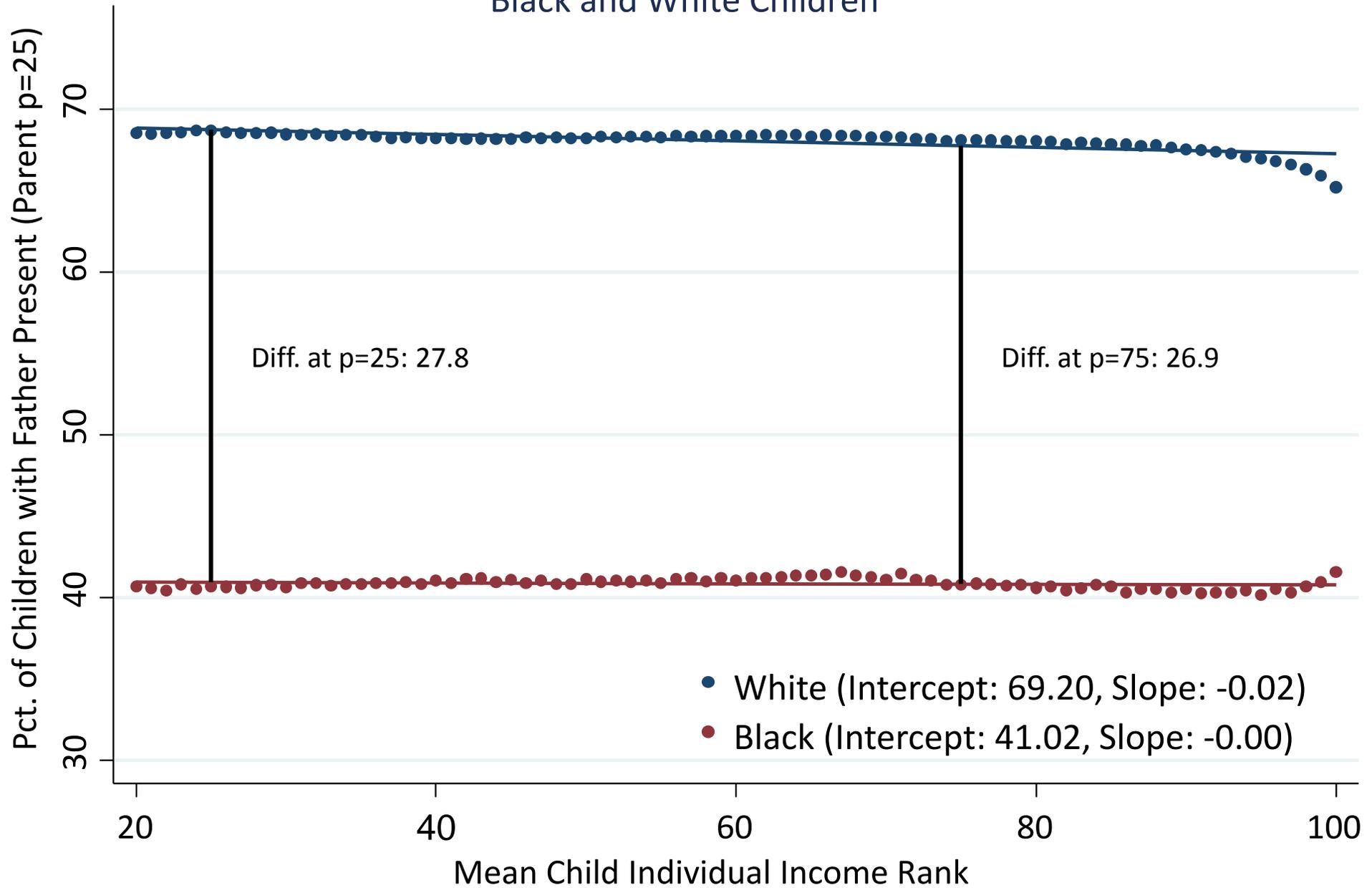
# Tract Poverty Rates vs. Mean Child Individual Rank

## Black and White Children

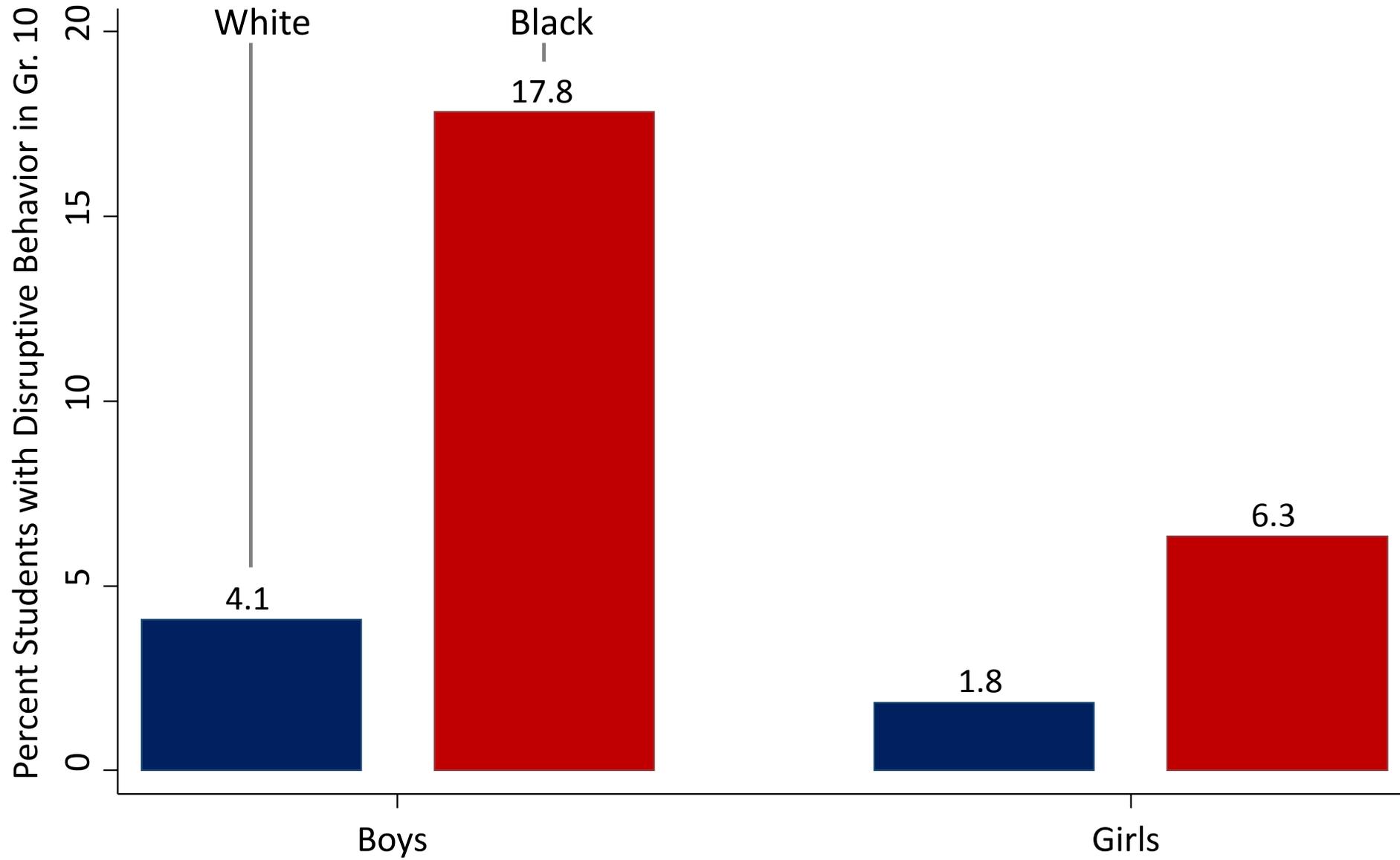


# Fraction of Kids with Father Present vs. Individual Income Rank

## Black and White Children

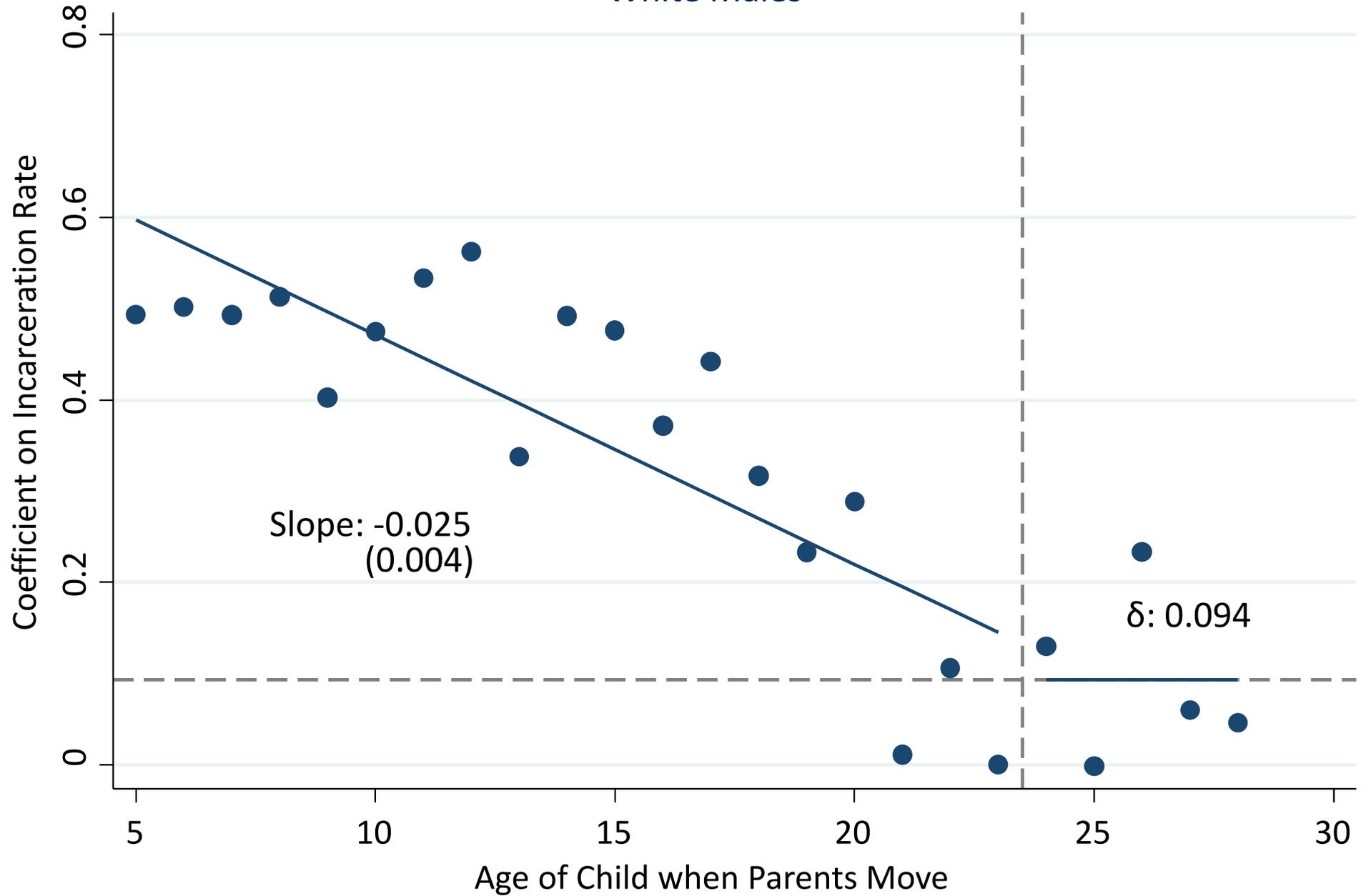


## Disruptive Behavior, by Race and Gender

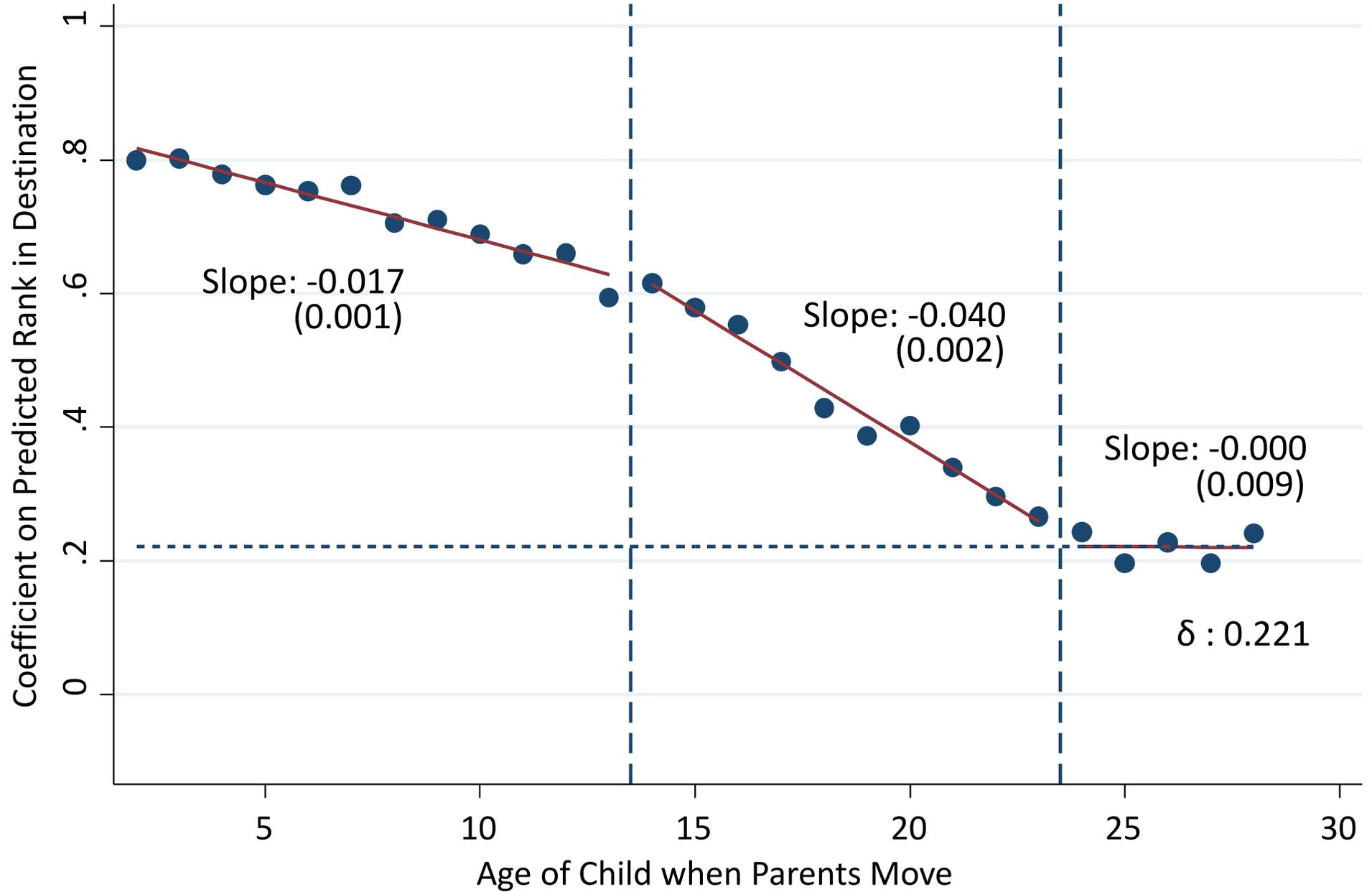


# Childhood Exposure Effects on Probability of Being Incarcerated in 2010

White Males



# Childhood Exposure Effects for Males on Income Rank at Age 24



## Top 5 and Bottom 5 CZs in Upward Mobility for Low-Income Black Men Among 100 Largest CZs by Black Population

Commuting Zone	Mean Individual Income Rank Black Males (p=25)	White Minus Black Individual Income Rank (p=25)
<b>A. Top 5 CZs</b>		
Boston, MA	44.3	7.8
Lafayette, LA	44.0	11.6
Lake Charles, LA	43.1	11.1
Baton Rouge, LA	43.1	10.8
New York, NY	42.4	13.2
<b>B. Bottom 5 CZs</b>		
Grand Rapids, MI	35.5	11.1
Cleveland, OH	35.2	12.6
Youngstown, OH	35.2	12.9
Tampa, FL	34.9	9.3
Cincinnati, OH	34.7	10.1