Racial Disparities in the Link Between Offspring Education and Older Parents' Health

NASEM CPOP Meeting
May 18, 2020

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Outline

- Research motivation
- Recent studies:
  - Study 1: Adult children's education and parents' mental health
  - Study 2: Adult children's education and parents' cognitive health (Q&A)
- Intergenerational mobility and health

Motivation

Socioeconomic gradient in health

Dominant research focuses on **individual-level** determinants and processes


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Rewarding jobs

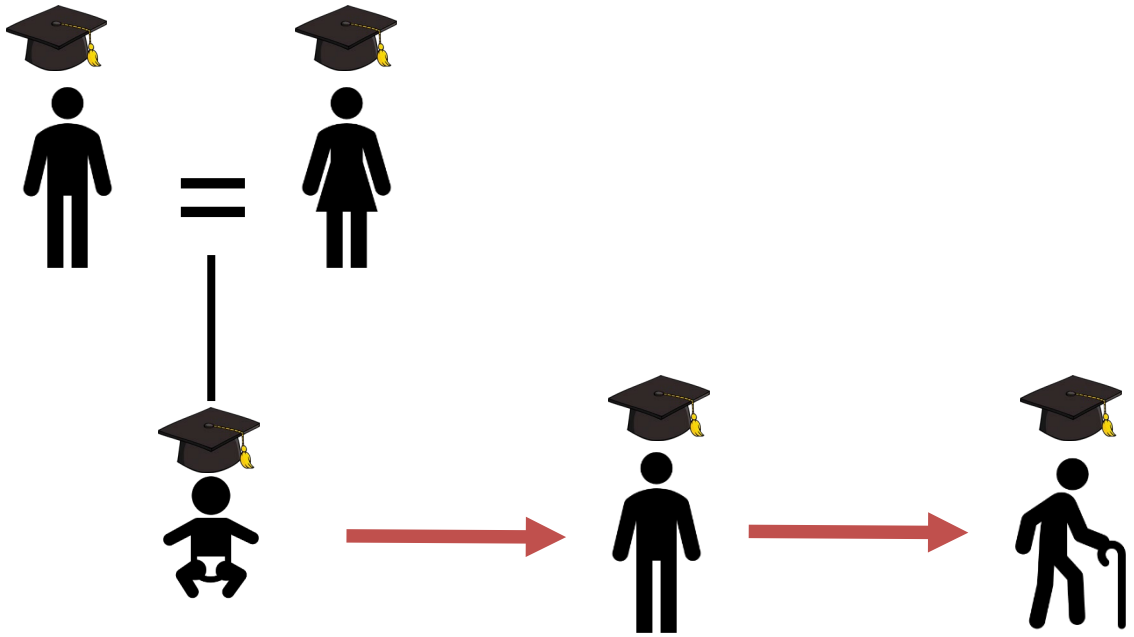
Higher income

Healthier behaviors

Good health

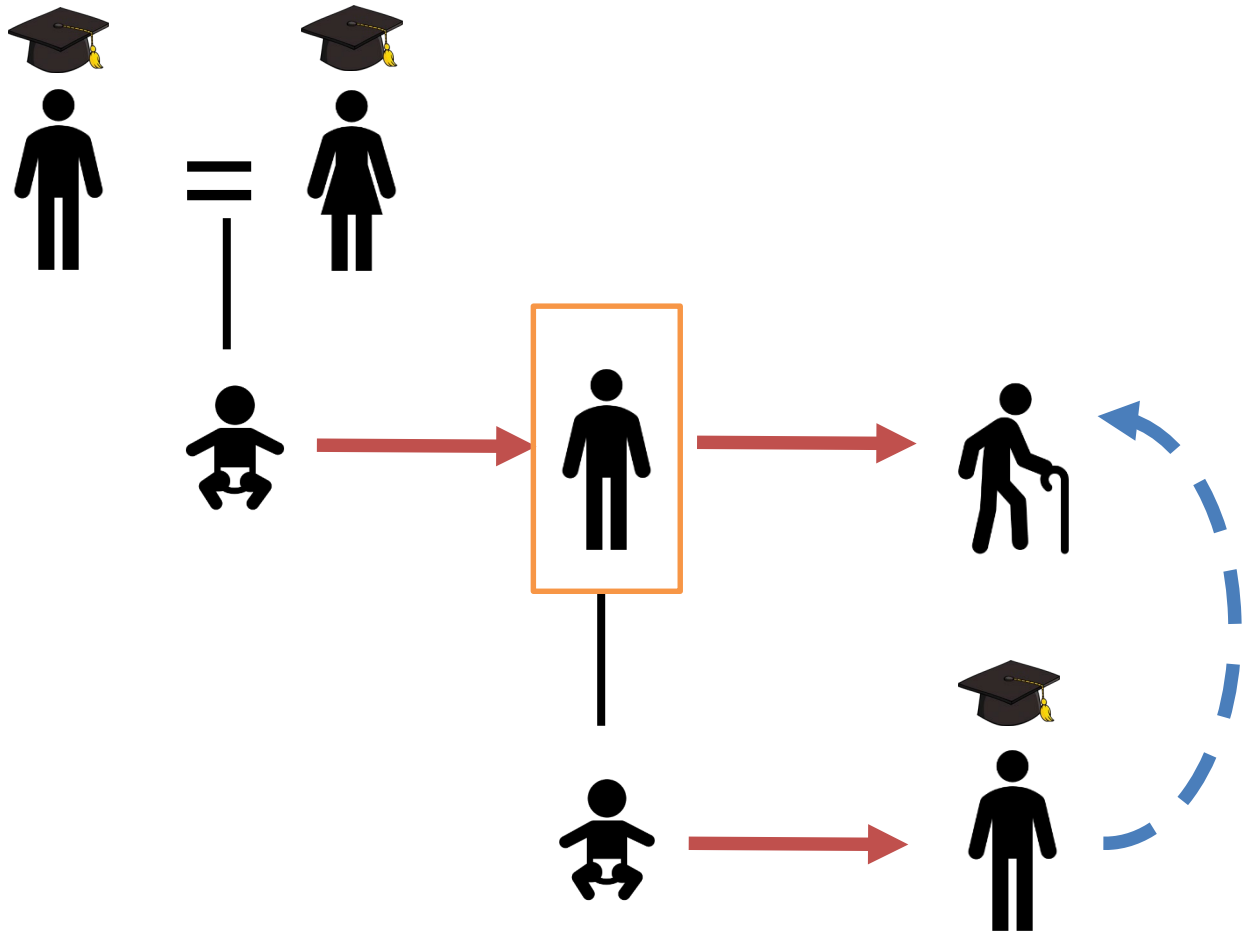
Intergenerational processes

Largely focused on downstream effects from parents to children ("long arm of childhood")



“Upstream” processes?

How might adult children affect parents’ health?



How do adult children's resources shape parents' health and well-being in later life?

Recent studies

Study 1: The Role of Adult Children's College Education for Older Parents' Mental Health

Yahirun, J., Sheehan, C. & Mossakowski, K. 2020. "Depression in Later Life: The Role of Adult Children's Education for Older Parents in the United States." *Journal of Gerontology Series B: Psychological Sciences and Social Sciences.* 75(2): 389-402.

Yahirun, J., Sheehan, C. & Mossakowski, K. *Under review.*

Research questions

1. Does having college-educated children improve parents' mental health?
2. What explains this association?
3. How does this association change over a parent's life course?
4. Does this relationship vary across racial groups? (NEW WORK)

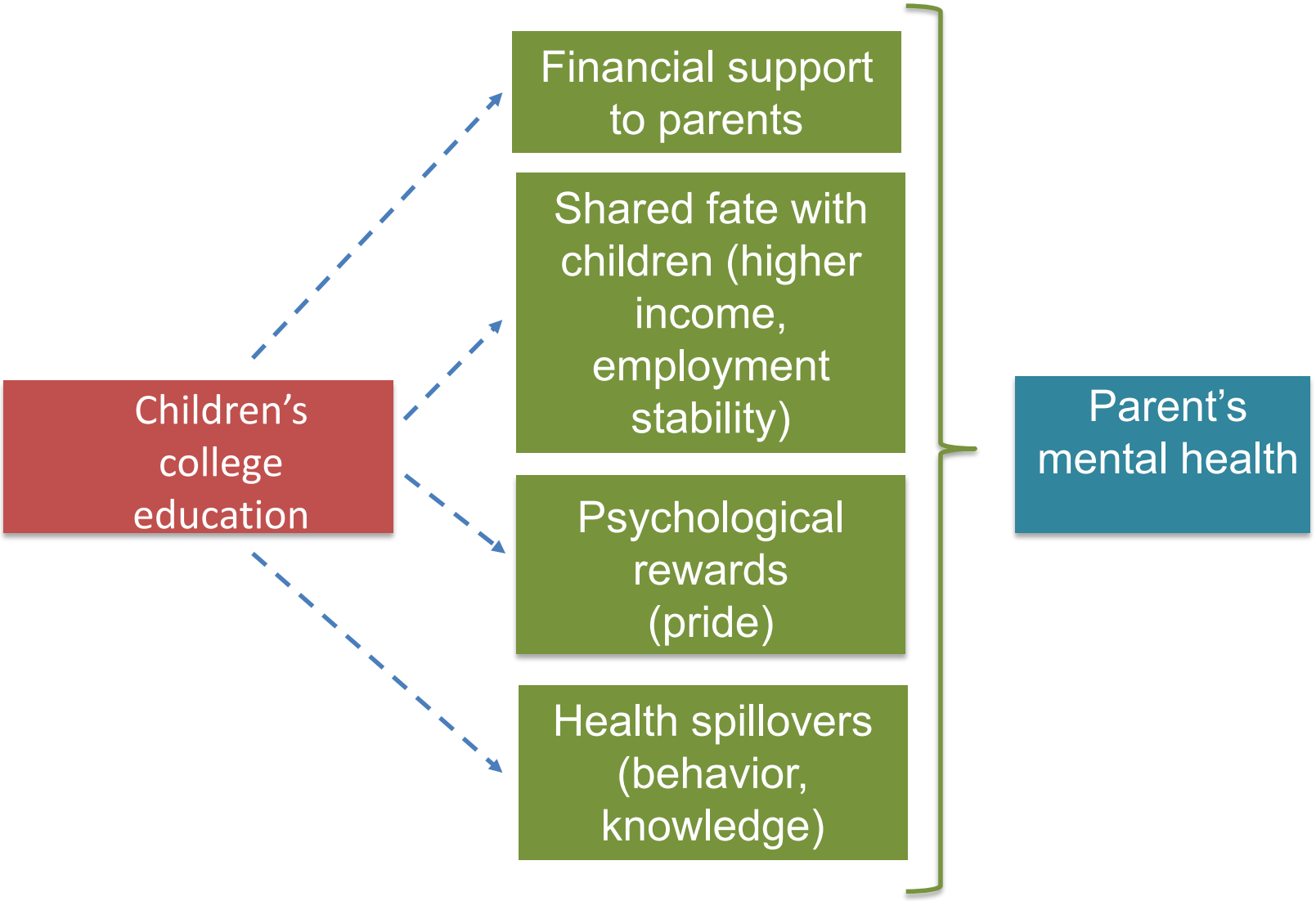
Prior research

Higher levels of children's schooling is positively associated with parents' **longevity and physical health** across contexts (Friedman and Mare, 2014; Zimmer et al., 2002; 2007; Torssander, 2013).

→ Less research on how children's resources affect other dimensions of parents' health (e.g., mental, cognitive).

→ No research in the U.S. on whether or not these relationships vary across racial groups.

Mechanisms


Financial support to parents
Shared fate with children (higher income, employment stability)
Psychological rewards (pride)
Health spillovers (behavior, knowledge)
Children's college education
Parent's mental health

Financial support to parents

- Transfers from adult children to parents remain less common in the U.S. context: ~10% for Blacks, ~4% for Whites (Park, 2017)

- But, education and socioeconomic status are important predictors of financial transfers (McGarry and Schoeni, 1995)

- Income disparities between college-educated and non-college educated individuals are greater than ever (Hout, 2012).

→ Not having a college education could reduce children's ability to provide financial support to parents.

“Shared fate” of parents and children

- Parents’ well-being is susceptible to the challenges their children face (Greenfield and Marks, 2006; Barr et al. 2017) .
- Children without a college education:
  - Experience less stable employment
  - Have lower incomes
  - Less likely to marry and stay married
- Children’s mental health → parent’s mental health

Psychological rewards

- Specific rewards associated with a college degree
  - Achieving middle-class status (Brown, 2015).
  - Form of cultural capital, a sign of lifestyle, social origin, attitude (Eaton et al., 2010).
  - Pride: Children are seen as an extension of parents (Levitzki, 2009).

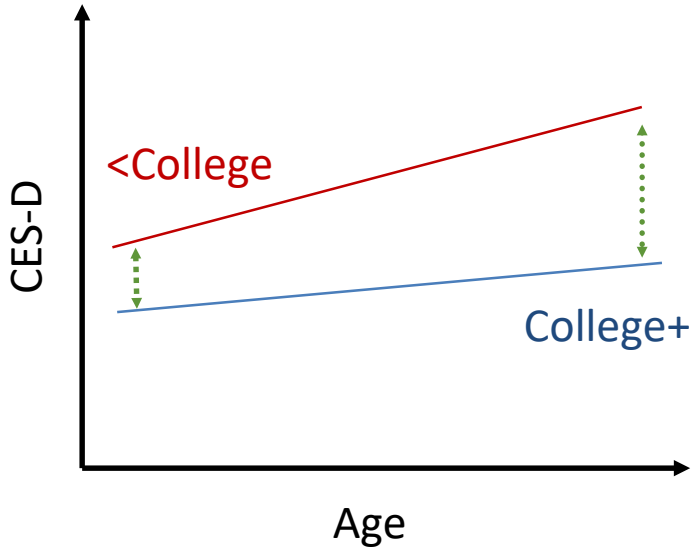
Health behaviors

- Health "spillovers": Parents of highly-educated children exercise more, and smoke less than peers whose children have less education (Friedman & Mare, 2013).
- Education of children → improved health knowledge? Or imitation?

Changes over the life course

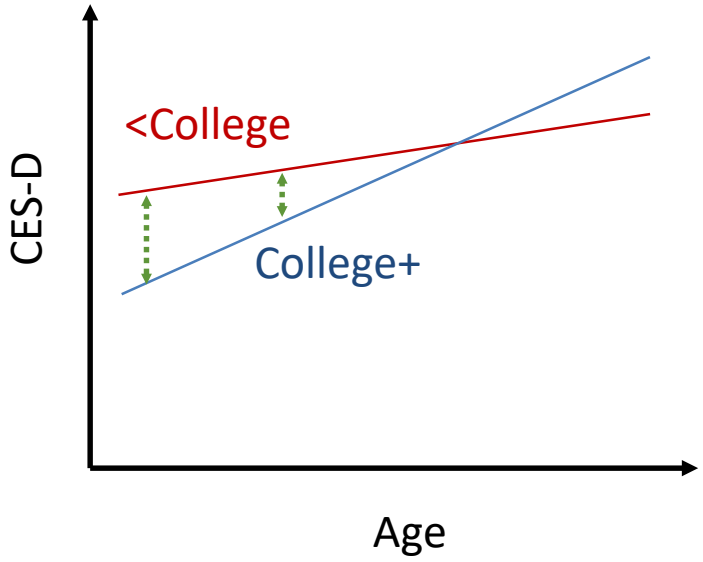
Cumulative advantage

→ Educational inequality in mental health expands with age



Age-as-leveler

→ Educational inequality in mental health weakens with age



Differences across racial groups

Resource Substitution

Education is a more important resource among the disadvantaged, including racial and ethnic minorities (Ross and Mirowsky, 2011).

→ Parents' with fewer resources use the resources of their children to a greater advantage.

Resource Multiplication

Those with more social advantages, such as Whites, derive greater benefits from education.

→ Parents with greater resources more readily use the resources of their children to further boost their health advantages.

Other factors contributing to race as a moderator

Kinship support

- Black family members more likely to call upon one another for instrumental support and financial support (Park, 2018; Sarkisian & Gerstel, 2004).
- Greater sense of family obligation among Black families (Burr & Mutchler, 1999).

Academic aspirations

- Black parents express higher academic aspirations for children compared to White parents (Qian & Blair, 1999).
- 62% of Black parents report that it is extremely important that their children earn a college degree compared to 34% of White parents (Pew Research Center, 2015).

Data

HRS | HEALTH AND RETIREMENT STUDY
A Longitudinal Study of Health, Retirement, and Aging
Sponsored by the National Institute on Aging

- HRS, RAND "O" file (person file)
- HRS, RAND family file, Version D (parent-child data)
- 1992 – 2014 (ongoing)
- U.S. - nationally representative sample of adults ages 51 and older
- Includes information on respondents and all of their resident and non-resident children

Sample

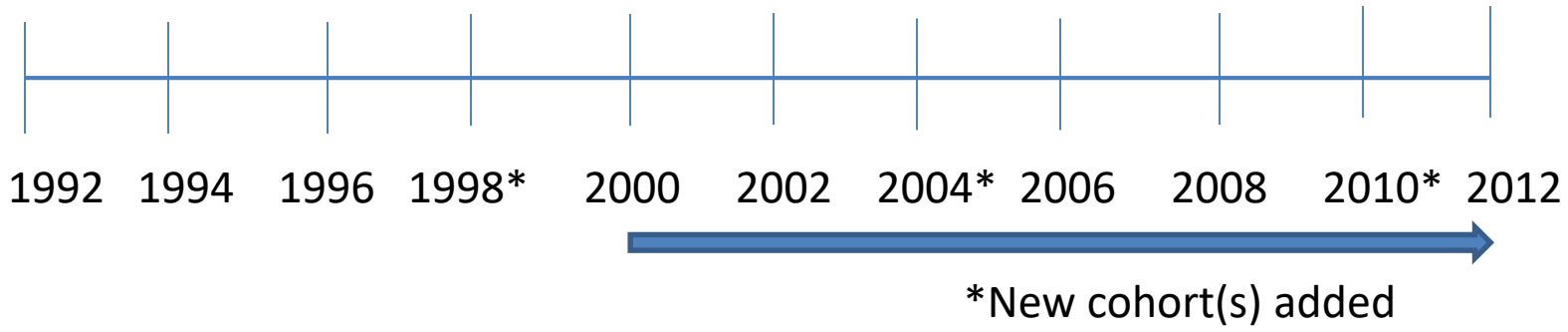
Includes:

- Persons present in 2000 - 2012
- All adults ages 51 and older with child(ren) age 25+

Excludes:

- Persons with “bad links” to children
- Persons with missing depressive symptoms in a given year

N = 25,058 respondents; 106,517 person waves



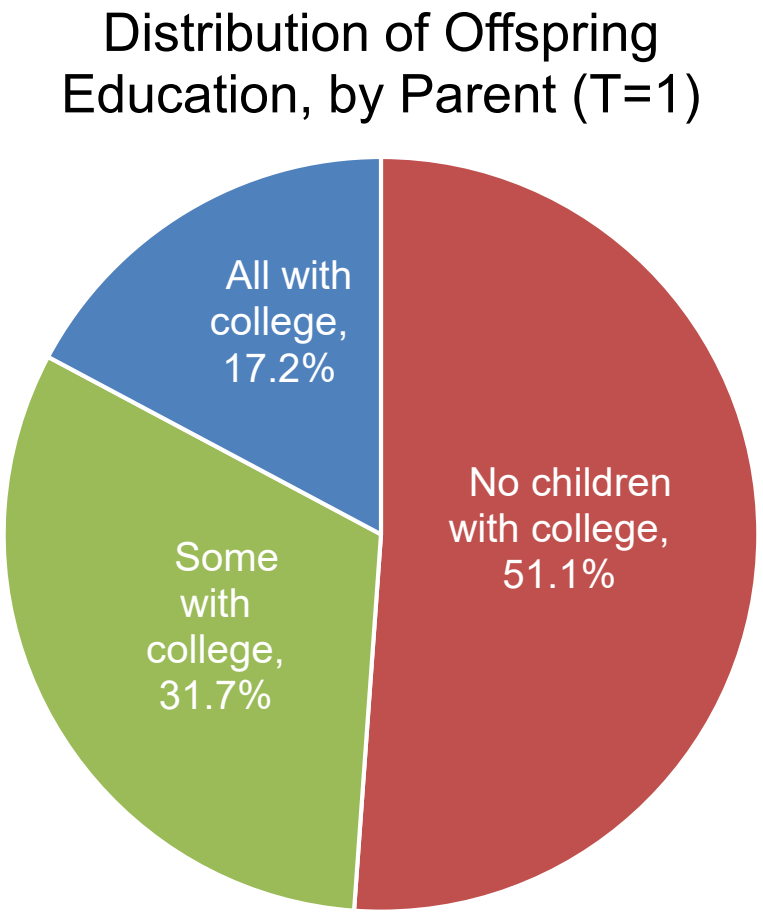
Outcome – parents' mental health

- Abbreviated CES-D scale – 7 items
  - Feelings of depression, everything is an effort, sleep is restless, felt alone, felt sad, and could not get going.
  - Higher score = more depressed
  - Reliability: α =.72 to .78 across waves

Main explanatory variable

Children's college education (parent-level, time-varying)

a) No children who completed 16+ years
b) Some children who completed 16+ years
c) All children who completed 16+ years



Other explanatory variables

Control measures

- Parental characteristics: age, gender, **education, race/ethnicity,** foreign born, marital status, number of kids, income, wealth
- Children's characteristics: offspring gender, marital status, geographic proximity

Mediators

Shared fate

- Offspring income – % kids who earn $35K/year
- Offspring wealth – % kids who own home

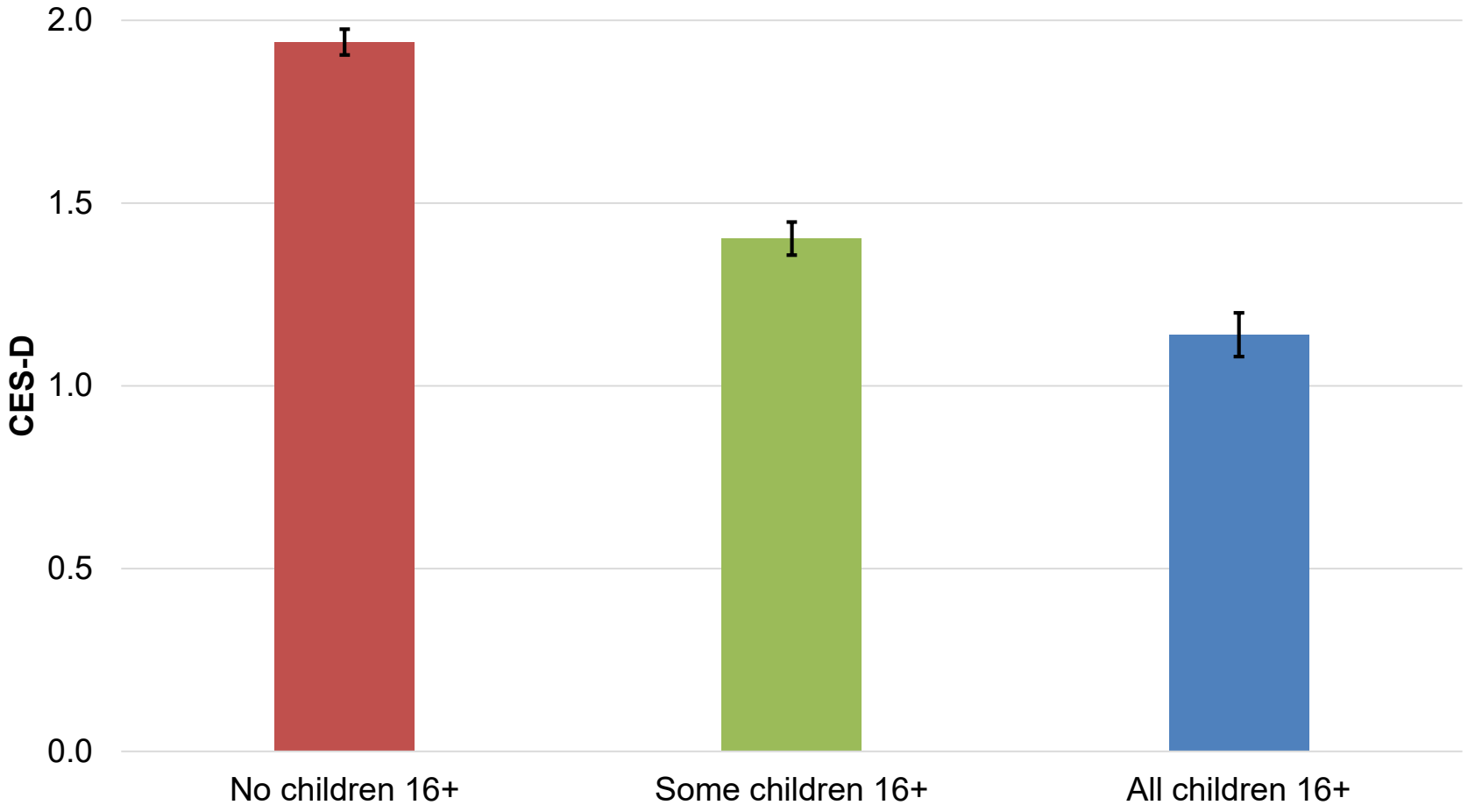
- Financial transfers to parents –received $500+/year

Financial support

Analytical plan

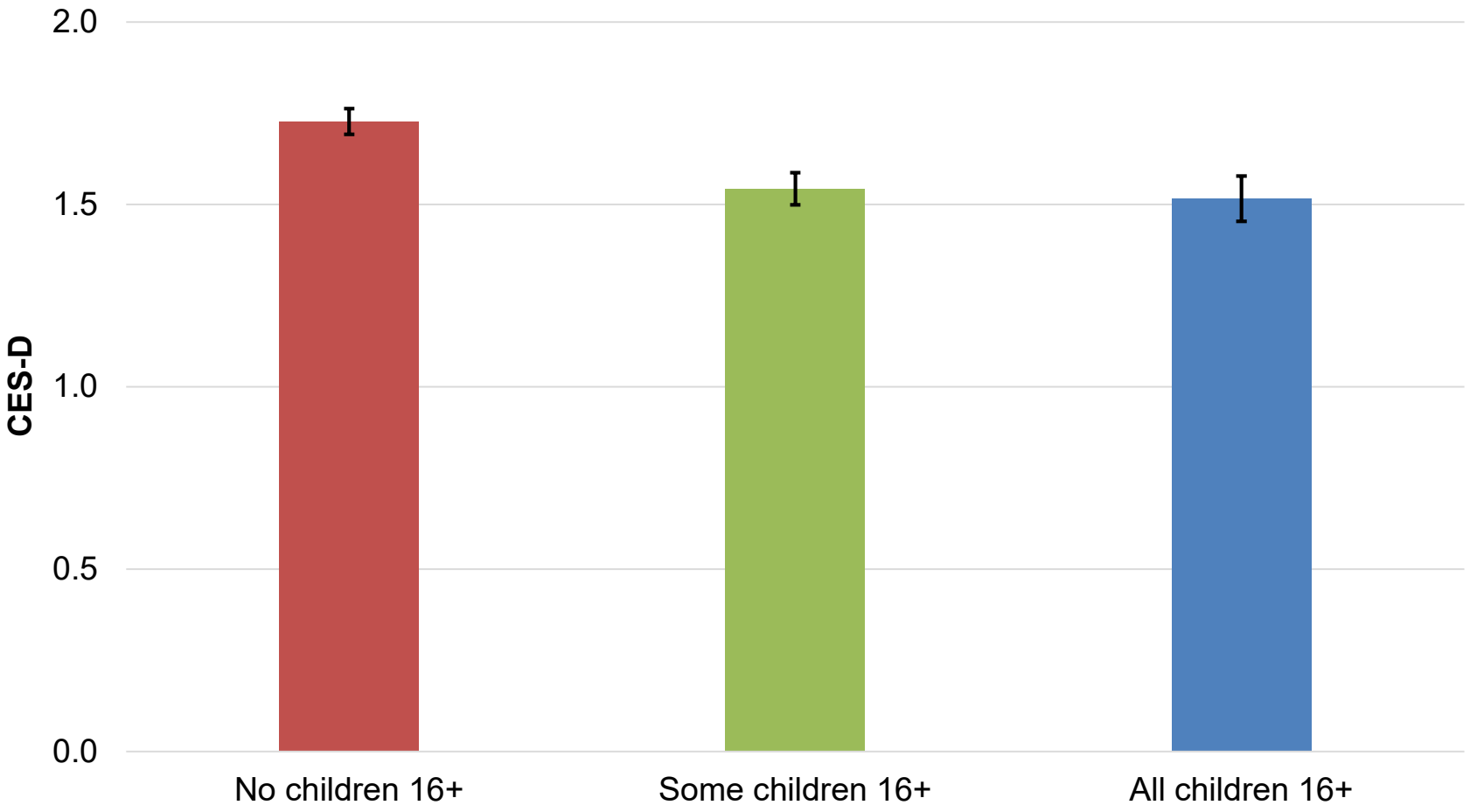
- Cross-sectional models
- Multilevel growth curve models
- Interaction of final model by respondent race

Parental depressive symptom score by children's education at baseline: M1



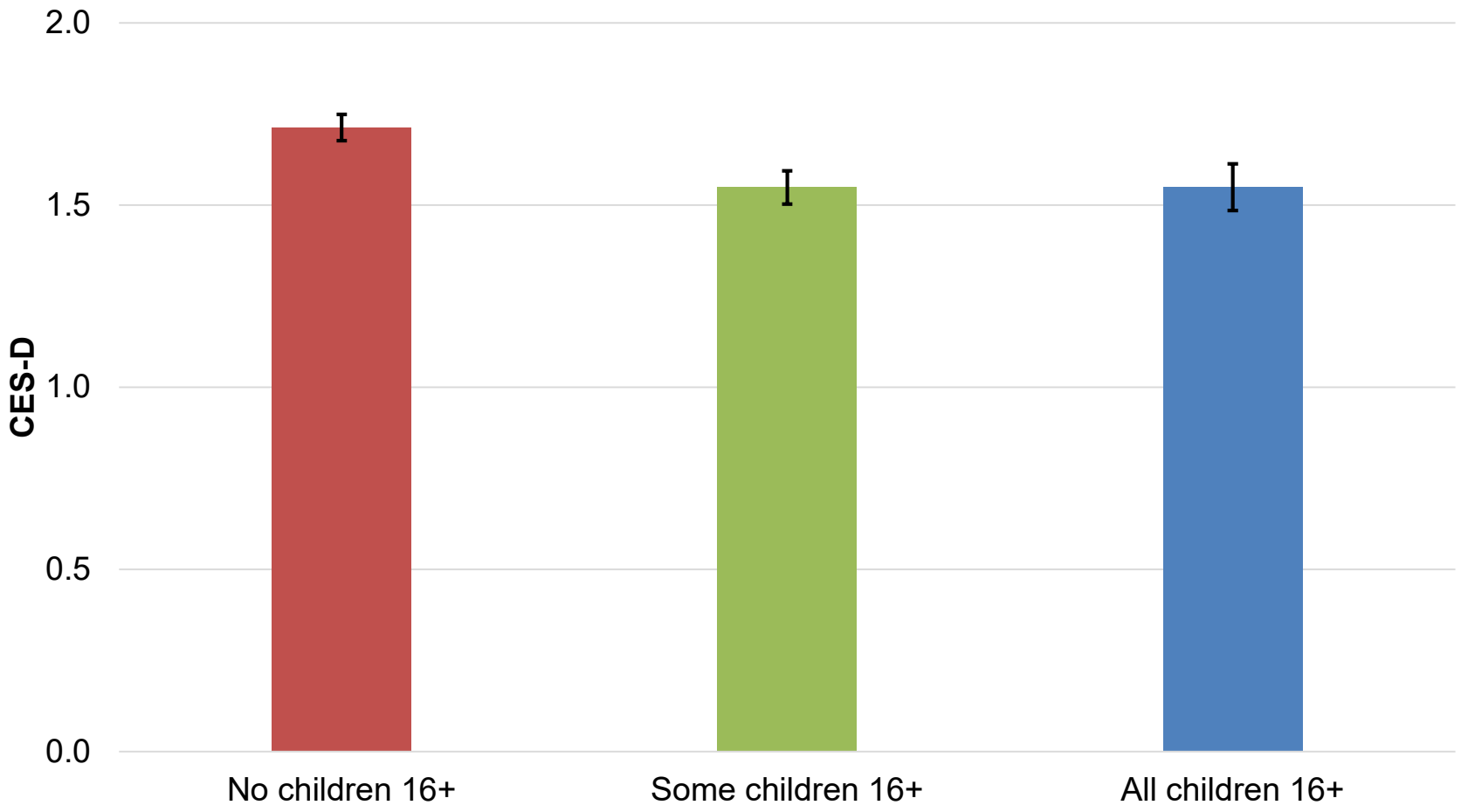
Note: Age included as control.
Source: *HRS, 2000-2010.*

Parental depressive symptom score by children's education at baseline: M2



Note: Age, parental traits (including parent education) included as controls.
Source: *HRS, 2000-2010.*

Parental depressive symptom score by children's education at baseline: M3



Note: Age, parental traits, children's wealth, income, transfers to parents, and other child-level vars included.
Source: *HRS, 2000-2010.*

Parents' depressive score trajectories by age

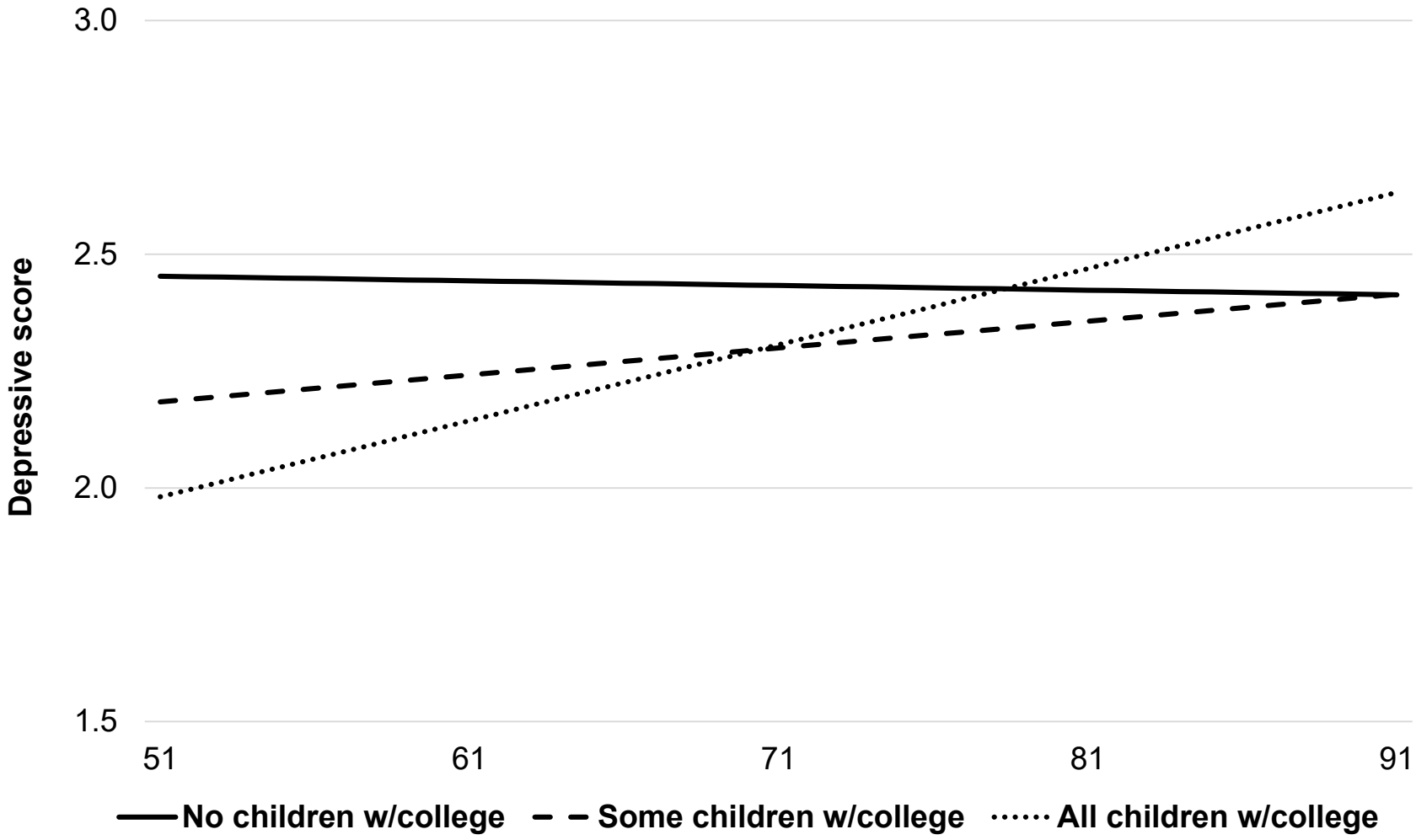


*Figure based on full model results. Source: *HRS, 2000-2010.*

Parents' depressive score trajectories by age

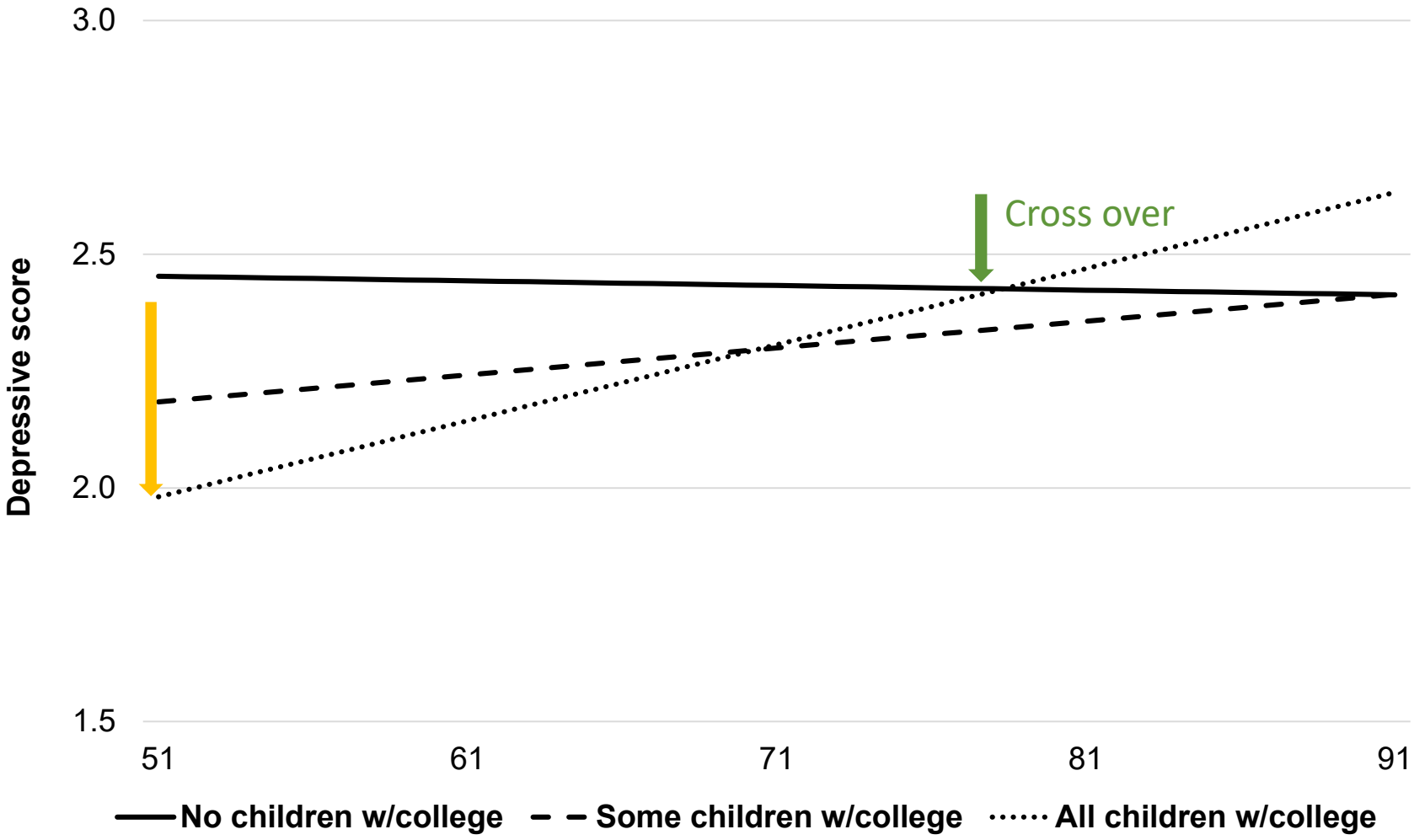
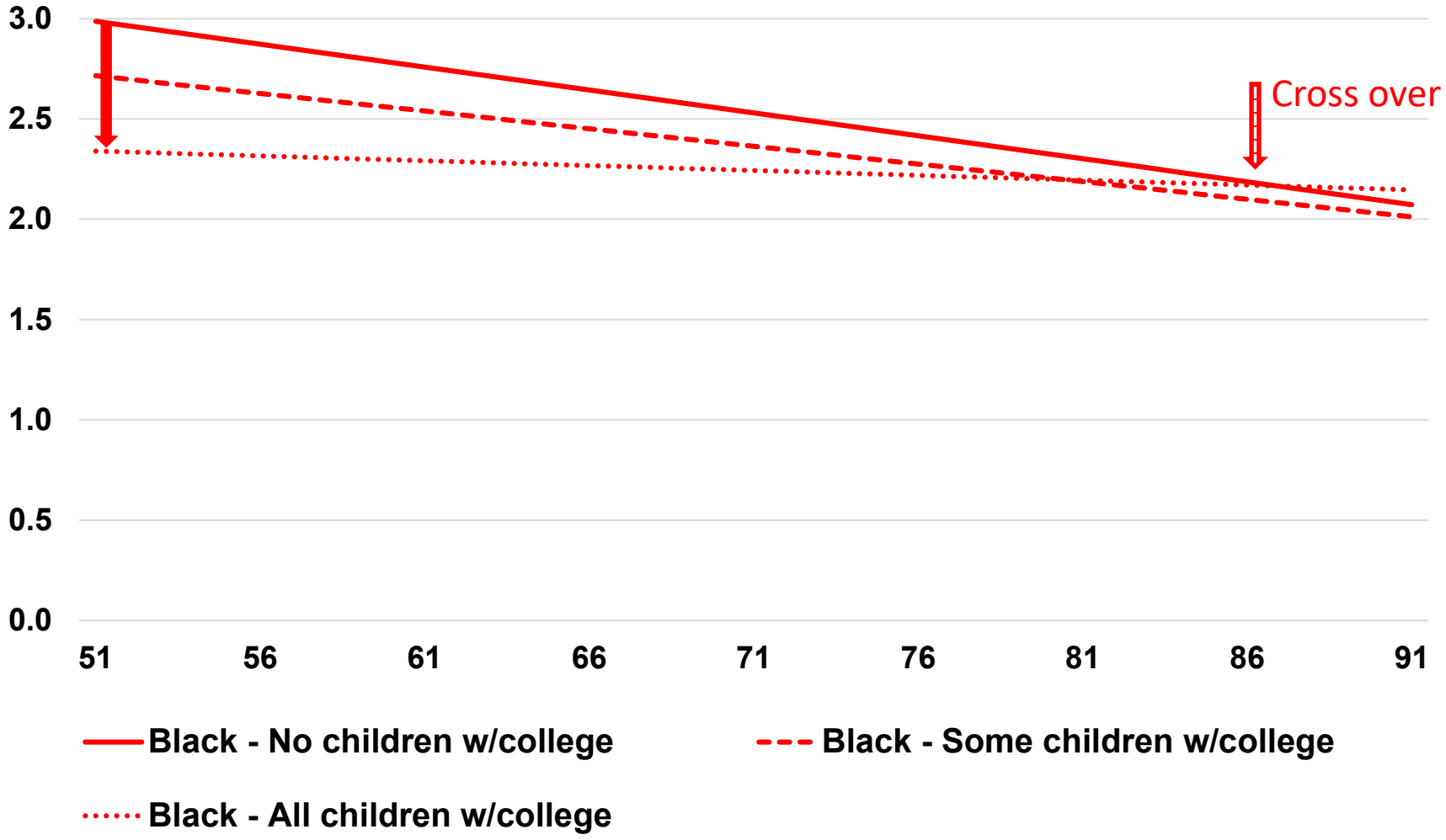
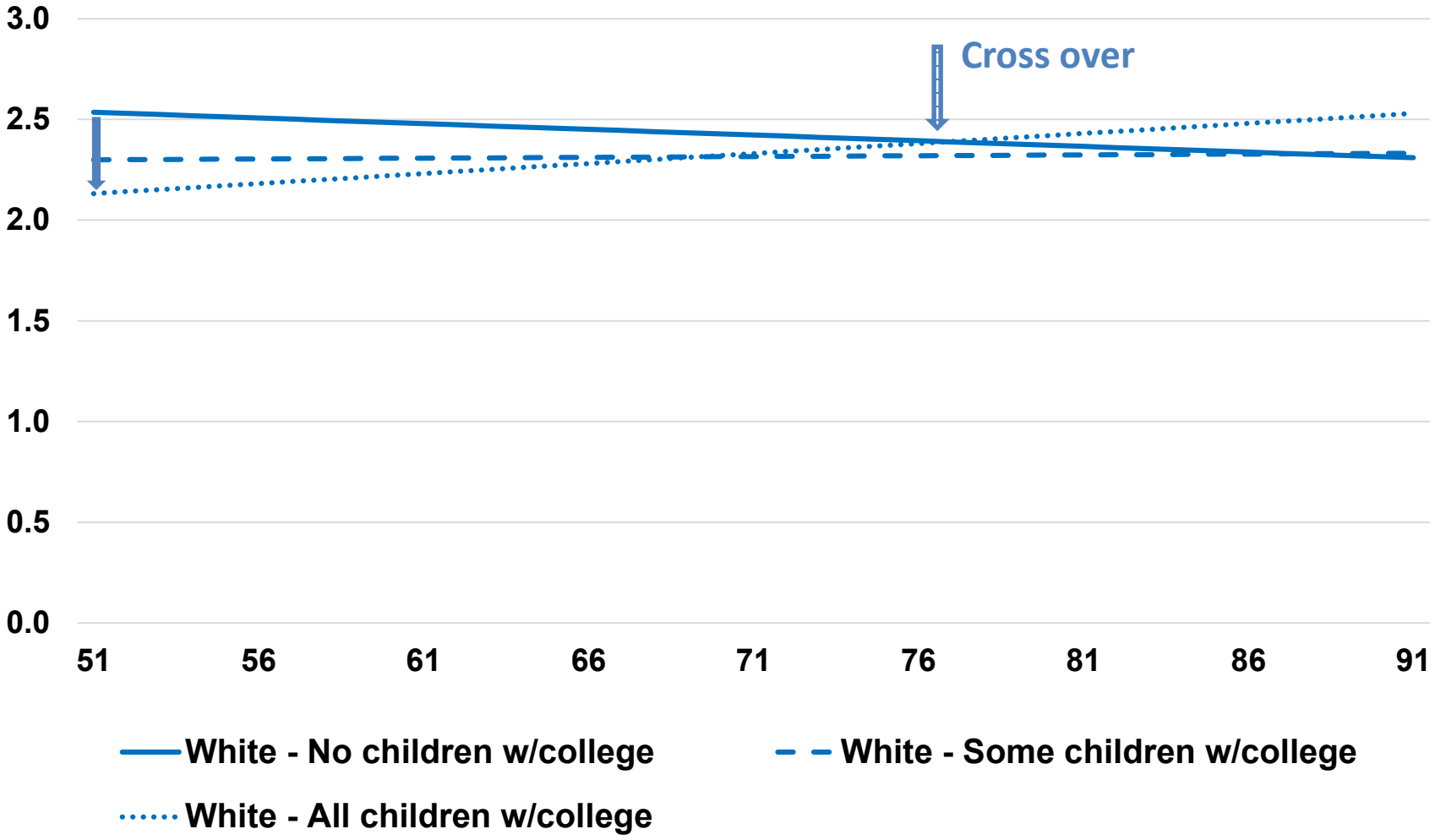


*Figure based on full model results. Source: *HRS, 2000-2010.*

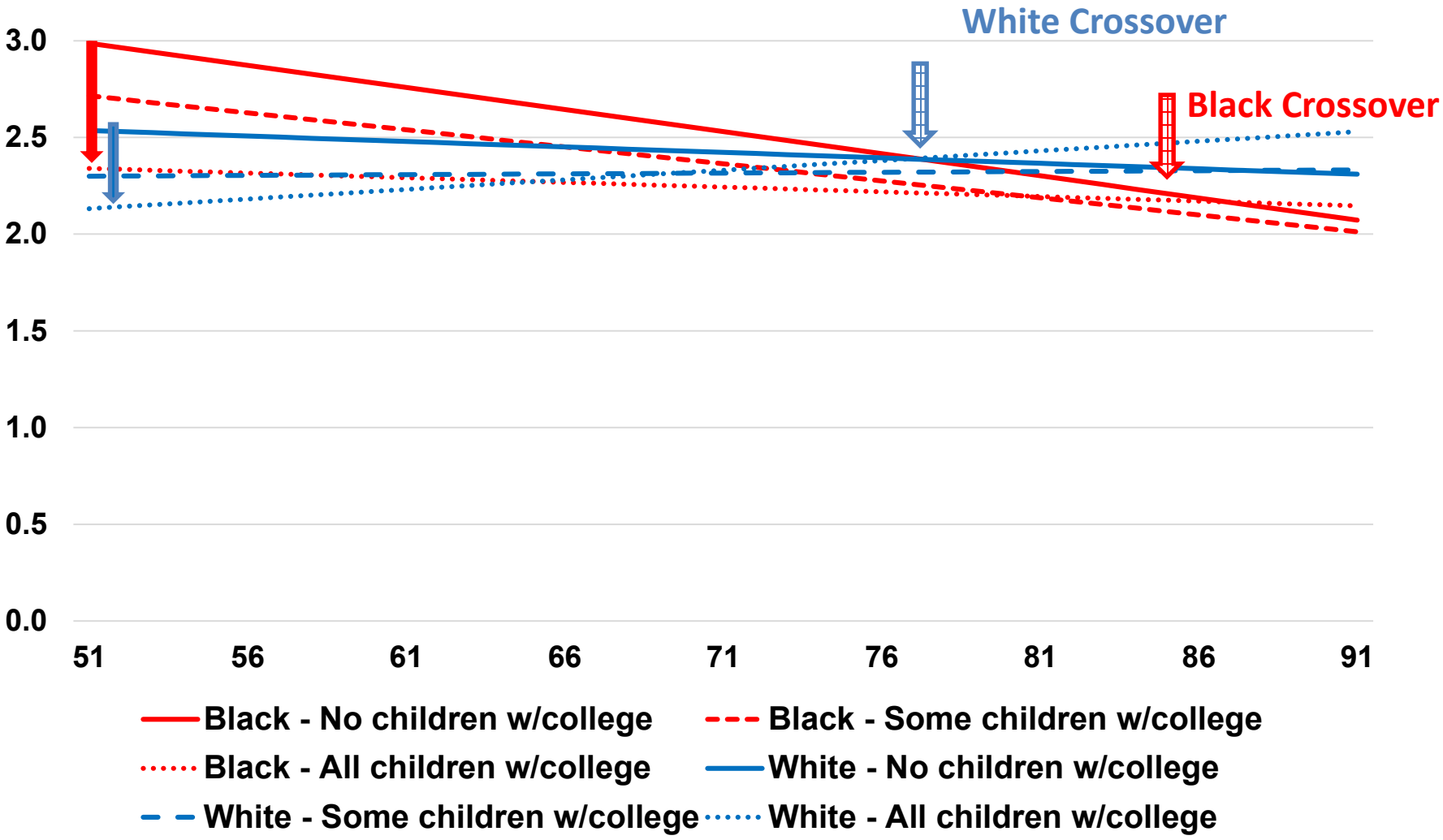
Parents' depressive score trajectories for Black parents



Parents' depressive score trajectories for White parents



Parents' depressive score trajectories for all parents



Summary results

1. Does having college-educated children improve parents' mental health?

   → Yes

2. What explains this association?

   → Children's transfers to parents and children's income and wealth do not.

3. How does this change over a parent's life course?

   → Children's educational advantage dissipates with age.

   → Nearly 30 years for cross-over between most- and least-advantaged parents.

4. Do Black parents benefit more from the education of their adult children than White parents?

   → Yes, some evidence at least initially.

Implications (linking social mobility)

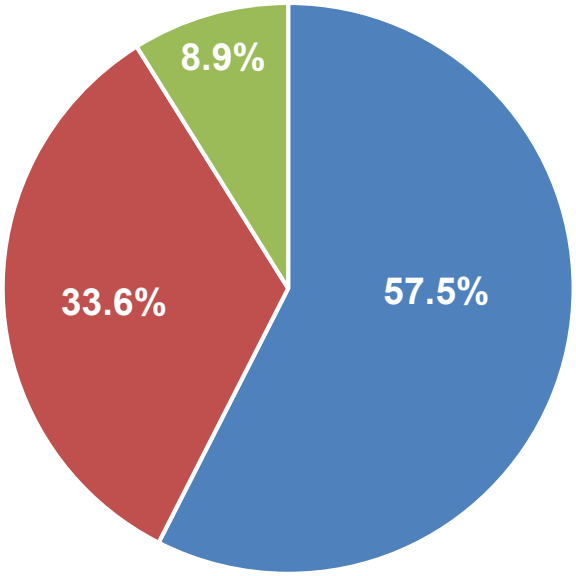
Health disparities

- This work highlights the role of **children's resources as a potentially overlooked source of racial health disparities among older adults.**

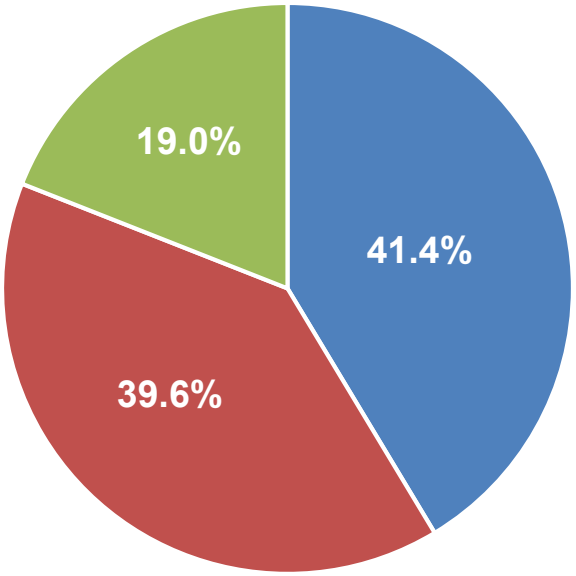
- How can we situate these findings into the broader context of social mobility?

Access to offspring college education

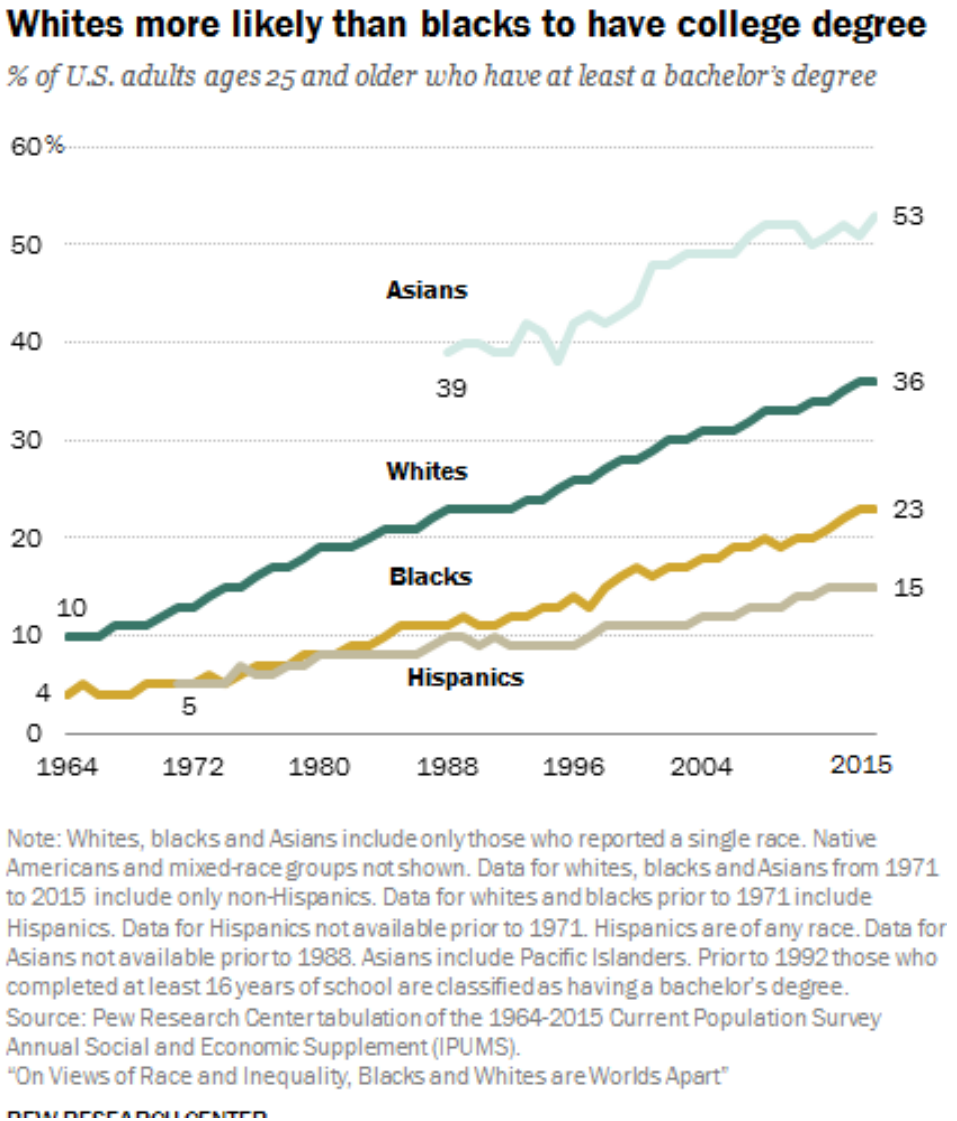
Black parents



White parents



Black-White gap in college completion remains



Source: Pew Research Center , 2016

Intergenerational mobility

FIGURE 1. Upward Mobility for Blacks and Whites Born in the United States Circa 1960

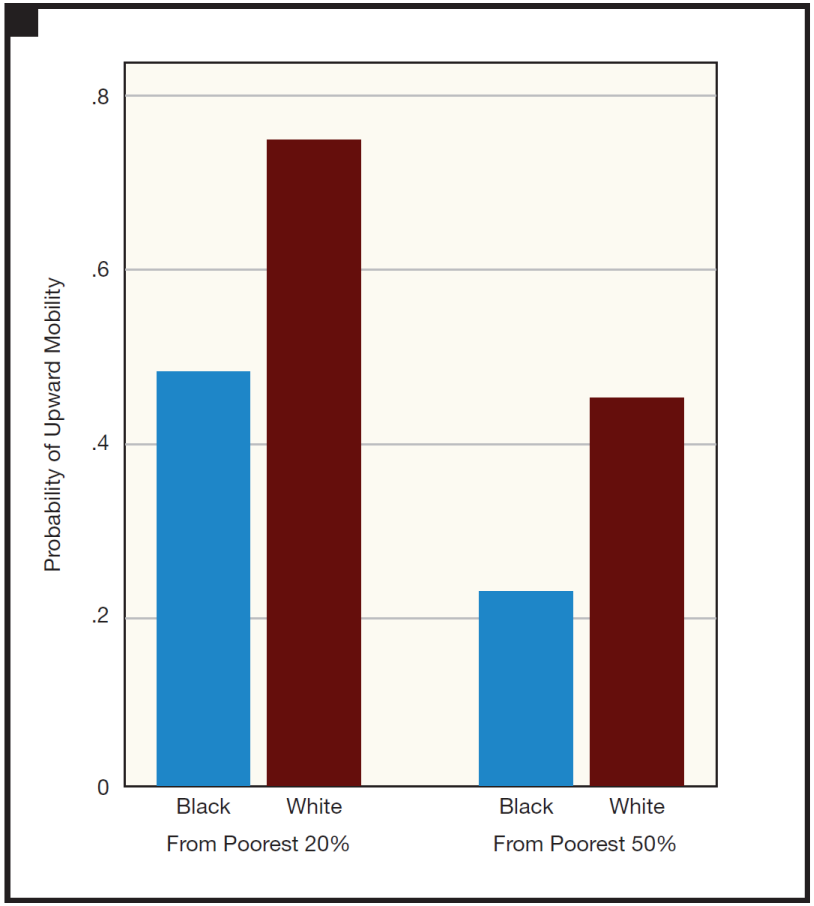
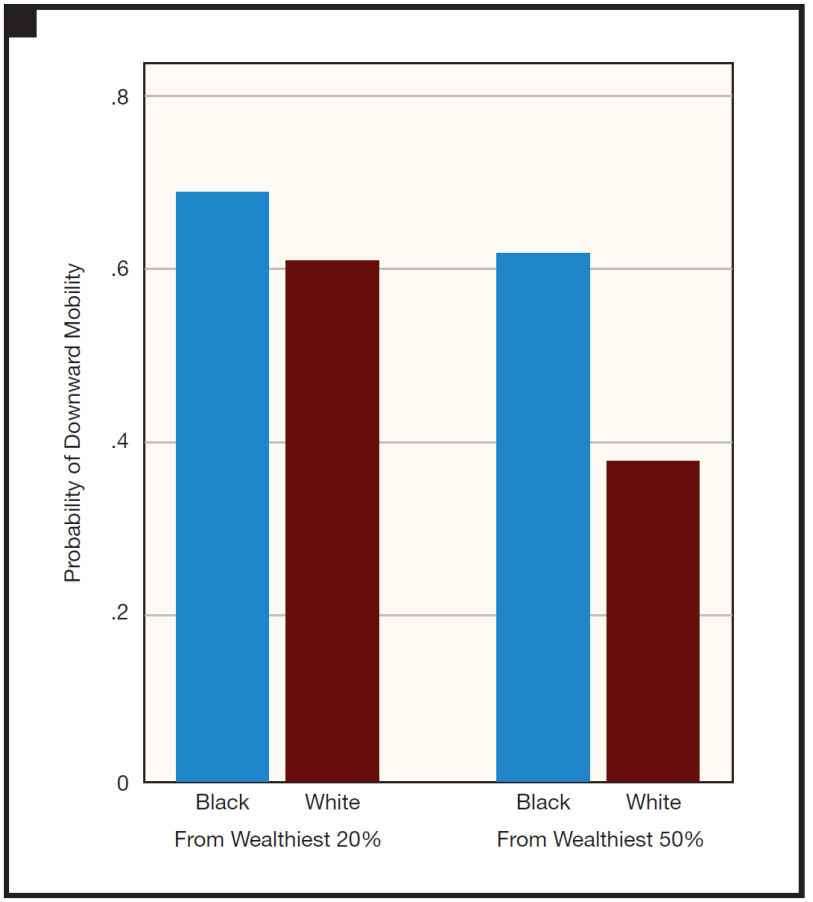


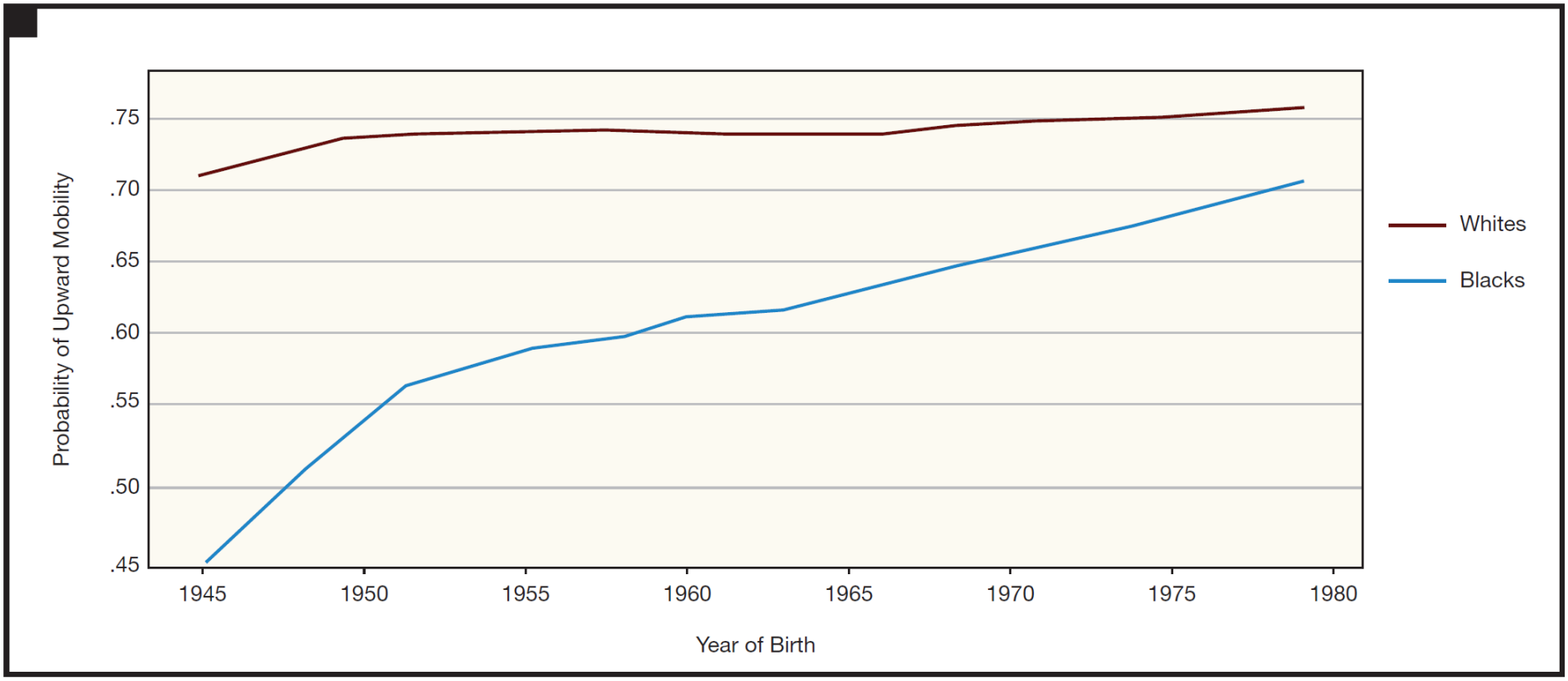
FIGURE 2. Downward Mobility for Blacks and Whites Born in the United States Circa 1960



Source: Torche, 2017

Trends over time

FIGURE 3. Upward Mobility for Blacks and Whites Born in 1945–1979 to Parents at the 20th Percentile of the Income Distribution



Note: Analysis based on the Panel Study of Income Dynamics.
Source: Reproduced from Figure 3A in Johnson, 2016.

Source: Torche, 2017

Takeaway

- Historical injustices → Lower levels of intergenerational mobility among African Americans compared to Whites →
- Immediate but also long-term consequences for racial disparities in health at the individual and **family level.**

Thank you!

- Thanks to Sindhu Vasireddy with her assistance on this presentation.

- Comments and questions?

- Contact: yahirun@bgsu.edu

The Center for Family and Demographic Research at Bowling Green State University has core funding from The Eunice Kennedy Shriver National Institute of Child Health & Human Development (P2CHD050959).

BGSU Center for Family and Demographic Research
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Extra Slides

- Next Steps
- Demographic Trends in Parent-Child Relationships
- Demographic Sample exclusions (Mental health sample)
- Parent by children's education exclusions (Mental health sample)
- Race results for mental health study
- Study 2: cognitive health study

Next steps

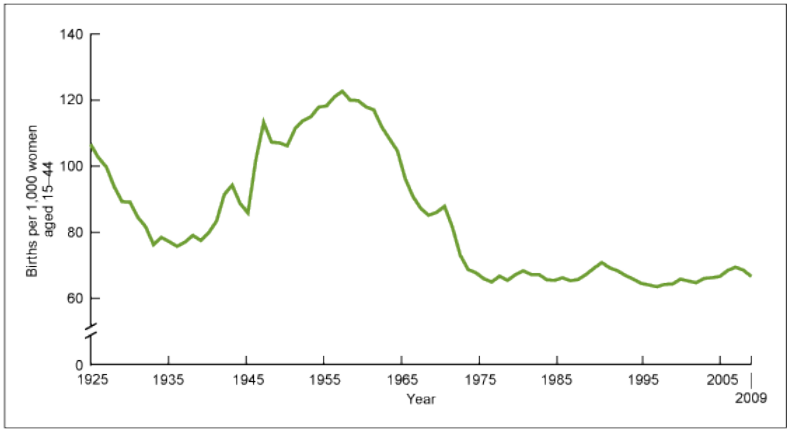
- Mechanisms
  - Physical health and behavioral changes in health
  - Parental investments in children's education
  - Engage caregiver literature – who provides care?
- Causality
  - Addressing omitted variable bias & reverse causality – how do we know that children's education is the driving factor?
  - 1976 Compulsory school reform in Mexico – instrumental variables approach (Ma, Yahirun, Sheehan, & Saenz, under review)

Demographic trends affecting parent-child relationships

Long run trends:
←Marriage rates decreasing
←Divorce rates increasing

Long run trend:
Fertility rates decreasing →

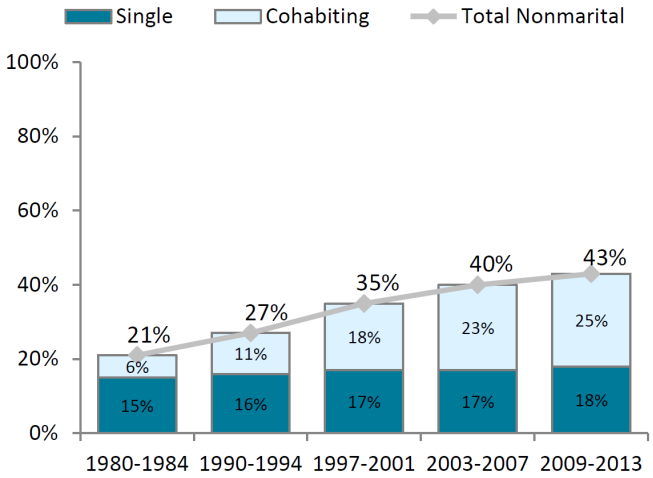
Figure 1. Fertility rate: United States, 1925–2009



Source: CDC/NCHS, National Vital Statistics System.

Why intergenerational relationships?

Figure 1. Changes in the Shares of Births to Single and Cohabiting Mothers under Age 40 (1980-2013)*

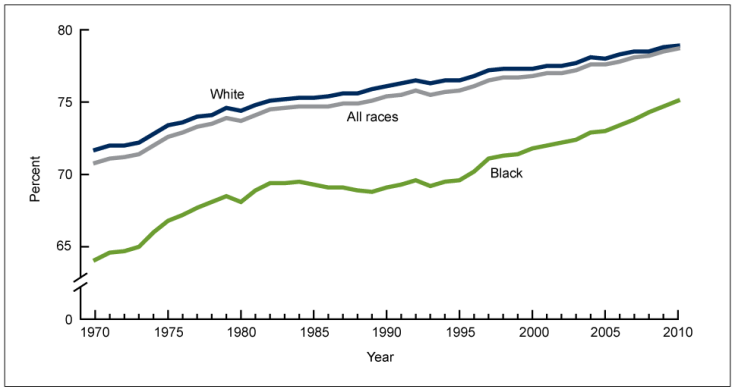


Source: Manning, Brown, Stykes, 2015

←Non-marital fertility increasing

Greater life expectancy across groups →

Figure 1. Life expectancy, by race: United States, 1970–2010



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality.

Parent-child relationships are central to modern family life.

Sample exclusions

Table R1.1: Exclusions made to sample	
Total Person-Waves in HRS "O"	261,219
Exclusions made by wave:	
R born after 1959	9,674
R age < 51	2,661
R did not merge with Family File (i.e., never a parent, or any person with a "bad family" link	21,028
R not present in a wave (e.g., not yet entered, dead)	106,093
R missing value for education	21
R missing value for race	104
R missing value for marital status	27
R dropped if no children age 25+	5,434
R dropped if missing CES-D score	9,660
Total exclusions (person-waves)	154,702
Sample size (person-waves)	106,517

Parent's by children's education

Parent's and children's education, T=1 (N=25,058 persons)

	Parent's educ				
	<HS	HS/GED	Some coll.	Coll. +	Total
Children's educ					
No children w/coll.	32.8	52.1	5.5	9.7	47.8
Some children w/coll.	18.5	53.9	6.4	21.3	35.6
All children w/coll.	7.4	42.8	6.0	43.8	16.5
Total	26.4	53.2	3.3	17.1	100.0

Source: HRS, 2000-2012

Race results for depression study

Table 4: Abbreviated results from multilevel models predicting respondent depressive symptom trajectories by race, adults ages 51+, 2000-2012

	Blacks								
Own Education	Less than High School			High School			College		
	b	SE	p-value	b	SE	p-value	b	SE	p-value
Intercept	2.39	0.17	0.000	2.24	0.13	0.000	1.70	0.24	0.000
Age	-0.02	0.00	0.000	-0.03	0.00	0.000	-0.03	0.01	0.042
Children's education[b]									
Some with college	-0.10	0.10	0.306	-0.17	0.08	0.022	-0.39	0.16	0.016
All with college	-0.66	0.22	0.002	-0.27	0.12	0.025	-0.33	0.18	0.072
Age X children's education									
Age X some with college	0.00	0.01	0.823	0.01	0.01	0.371	0.01	0.02	0.630
Age X all with college	0.04	0.02	0.028	0.02	0.01	0.030	0.02	0.02	0.367
Variance Components									
Variance of Random Slope	0.04	0.01		0.05	0.01		0.06	0.01	
Variance of Random Intercept	1.45	0.04		1.34	0.04		0.98	0.07	
Covariance of Slope and Intercepts	-0.22	0.09		-0.19	0.07		-0.37	0.15	
N persons (person-waves)	1,400 (5,403)			2,190 (7,982)			549 (1,988)		

Table 4: Abbreviated results from multilevel models predicting respondent depressive symptom trajectories by race, adults ages 51+, 2000-2012

Whites

Own Education	Less than High School			High School			College		
	b	SE	p-value	b	SE	p-value	b	SE	p-value
Intercept	2.76	0.14	0.000	1.97	0.06	0.000	1.21	0.09	0.000
Age	-0.01	0.00	0.001	0.00	0.00	0.080	-0.01	0.00	0.186
Children's education[b]									
Some with college	-0.10	0.08	0.191	-0.15	0.03	0.000	0.01	0.05	0.890
All with college	-0.28	0.18	0.113	-0.16	0.04	0.000	-0.04	0.05	0.419
Age X children's education									
Age X some with college	0.00	0.01	0.774	0.01	0.00	0.043	0.01	0.00	0.016
Age X all with college	0.03	0.01	0.018	0.01	0.00	0.000	0.01	0.00	0.003
Variance Components									
Variance of Random Slope	0.06	0.01		0.06	0.00		0.04	0.00	
Variance of Random Intercept	1.49	0.03		1.21	0.01		0.85	0.02	
Covariance of Slope and Intercepts	-0.33	0.05		-0.04	0.02		0.05	0.04	
N persons (person-waves)	2,817 (11,743)			9,765 (45,127)			3,735 (17,344)		

Source: HRS, 2000-2012

STUDY 2:
Black – White Differences in the Association between Offspring Education and Parents' Cognitive Impairment

Yahirun, J., *Vasireddy, S. & Hayward, M. Forthcoming. "Linked Lives and the Intergenerational Pathways to Cognitive Impairment." Journal of Gerontology Series B: Psychological Sciences and Social Sciences.

Yahirun, J., Vasireddy, S. & Hayward, M. *In Progress*

Study aims/hypotheses

1. Higher levels of offspring education → negatively associated with respondent cognitive impairment (H1)

2. The relationship between offspring education and respondent cognitive health will be stronger for Black parents vs. White parents (H2)

Outcome – respondent cognitive health

- Non-proxy respondents
  - Total cognition summary score, includes items from tests that assess immediate word and delayed word recall, numeracy, president, and date naming (Fischer et al., 2017)
  - Scale ranging from [0, 35]
  - 8+ defined as cognitively impaired

- Proxy respondents
  - 7 questions: getting lost, wandering off, poor memory, etc. (Zhang et al., 2016)
  - 2+ defined as cognitively impaired

Main explanatory variable

Children's college education (parent-level, time-varying)

a) No children who completed 16+ years
b) Some children who completed 16+ years
c) All children who completed 16+ years

Control variables

Respondent characteristics:

- age, gender, race, marital status, number of kids, education, proxy status, birth cohort

Respondent early childhood characteristics:

parental education, childhood health, Southern birth

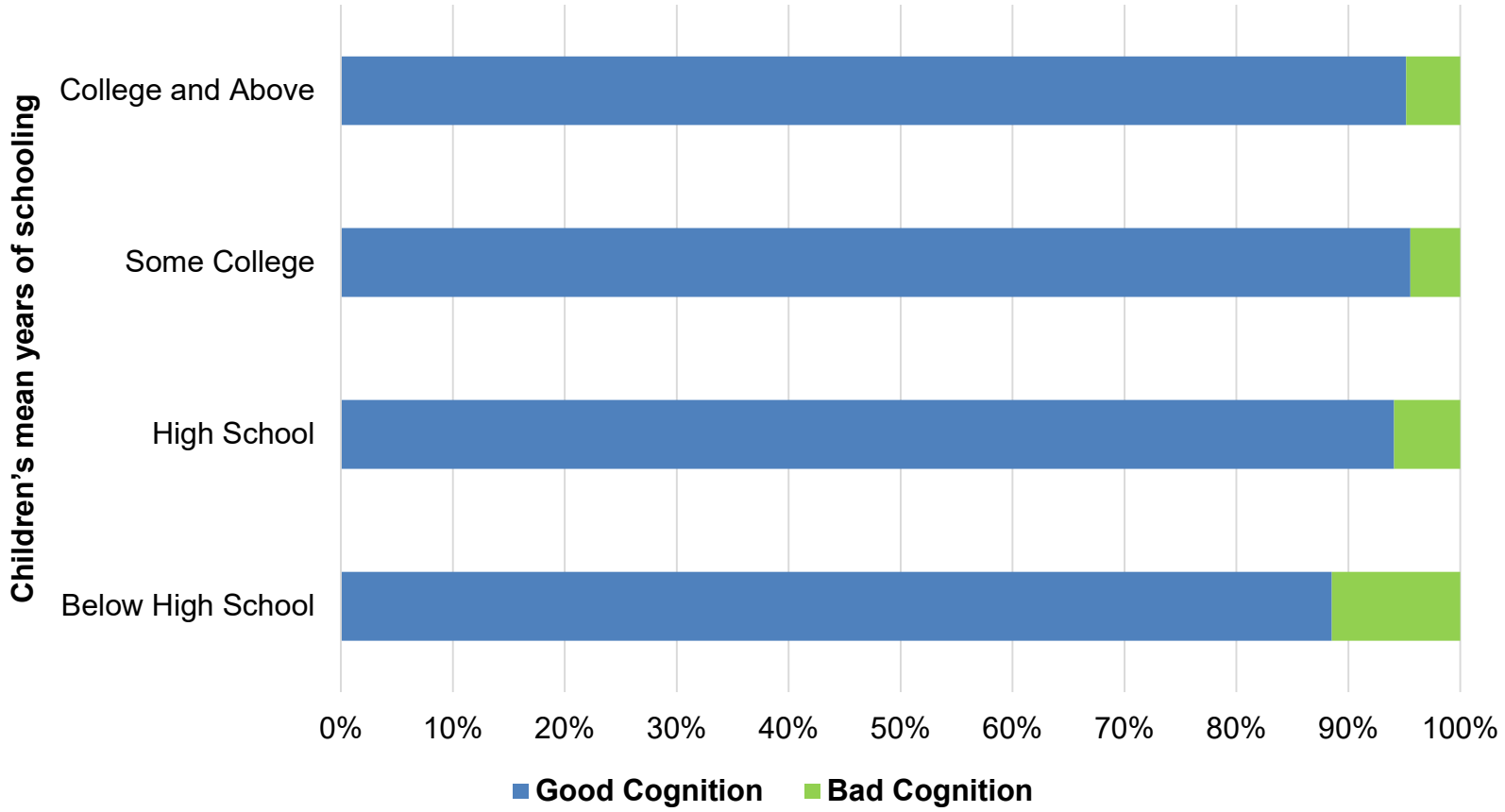
Analytical plan

- Discrete – time event history models
  - *Predict transition from good cognitive health → poor cognitive health*
  - Other states include death or attrition (not shown)

- Progressive adjustment strategy
  - M1: respondent demographics
  - M2: M1 + R's early childhood conditions
  - M3: M2 + offspring education

- Stratified by education (<HS, HS+) and race (Black vs. White)

Parental cognitive health by children's education at baseline, Respondents age 65+



Source: *HRS, 2000-2012.*

Figure 1: Predicted probability of becoming impaired by age (all respondents)

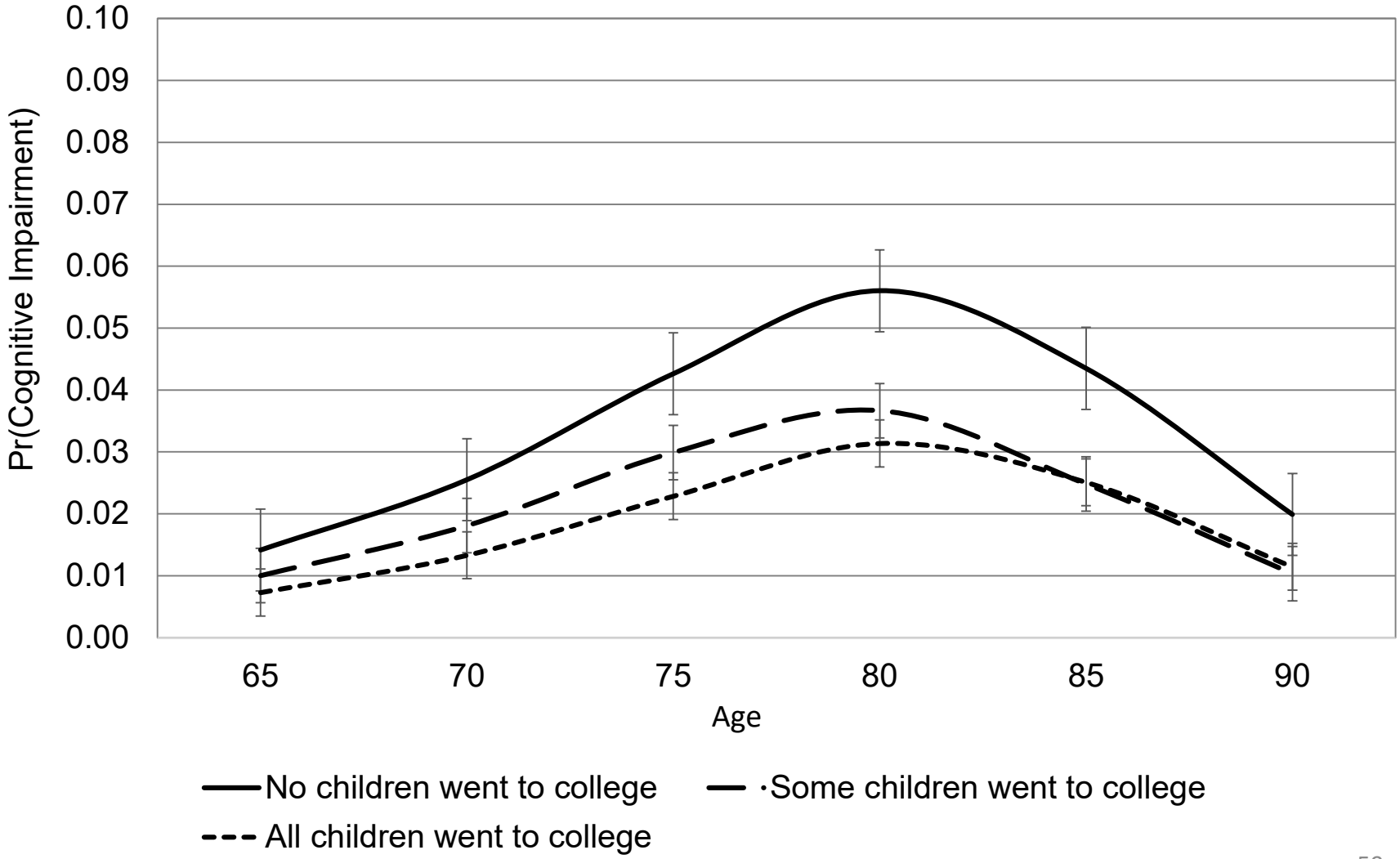


Figure 2A: Predicted probability of becoming impaired by age and R education

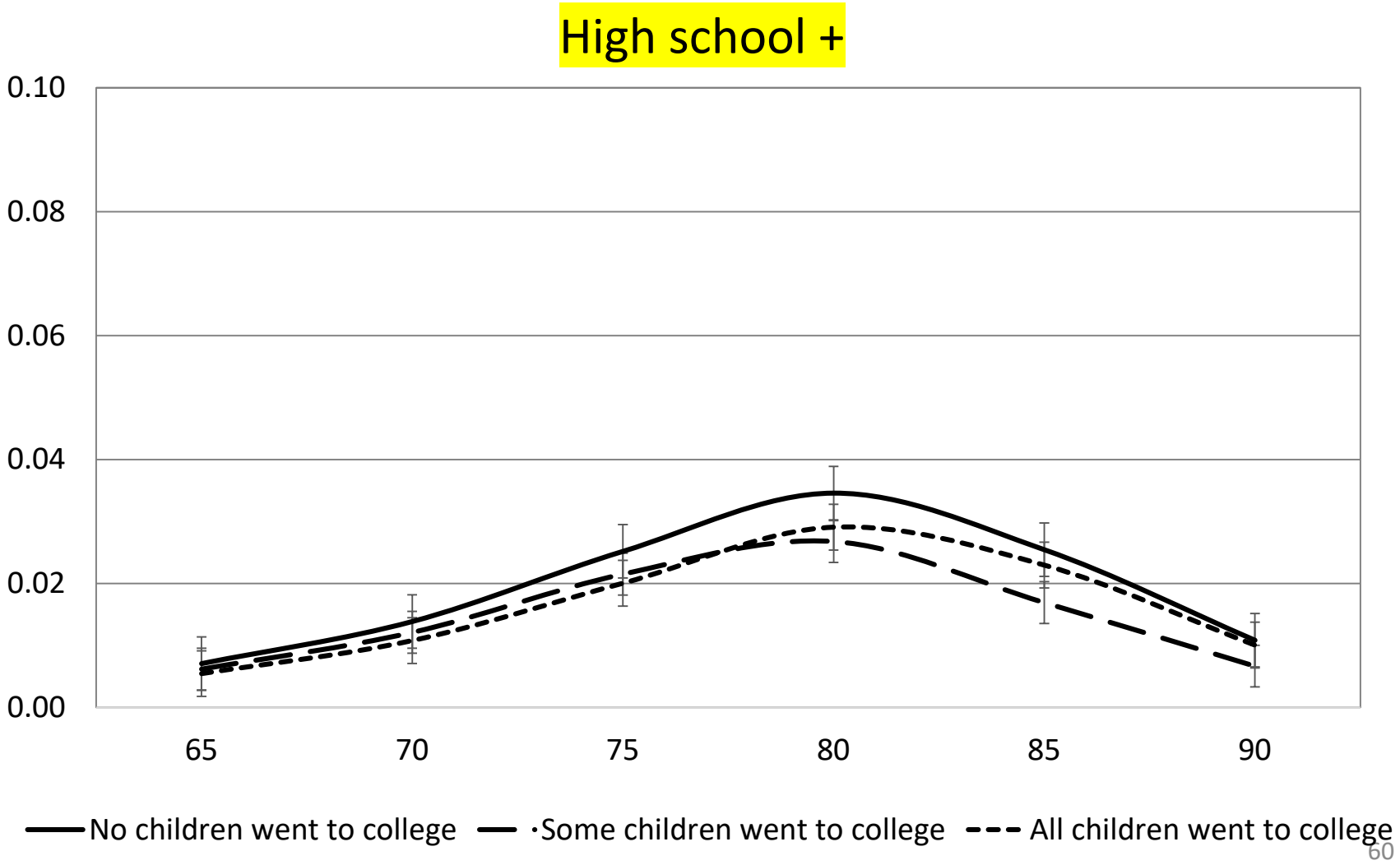


Figure 2B: Predicted probability of becoming impaired by age and R education

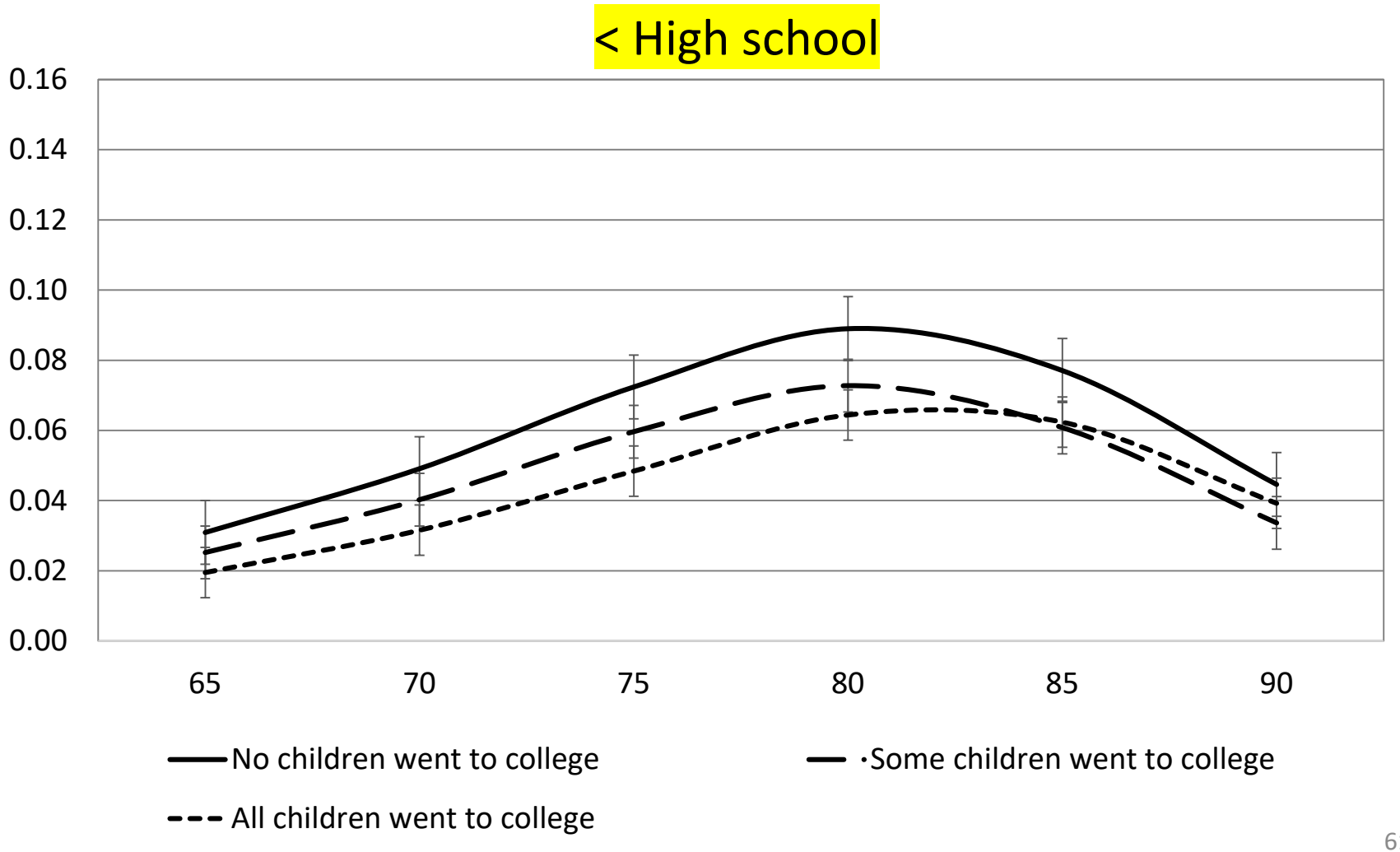


Figure 3A: Predicted probability of becoming impaired for Whites (< HS)

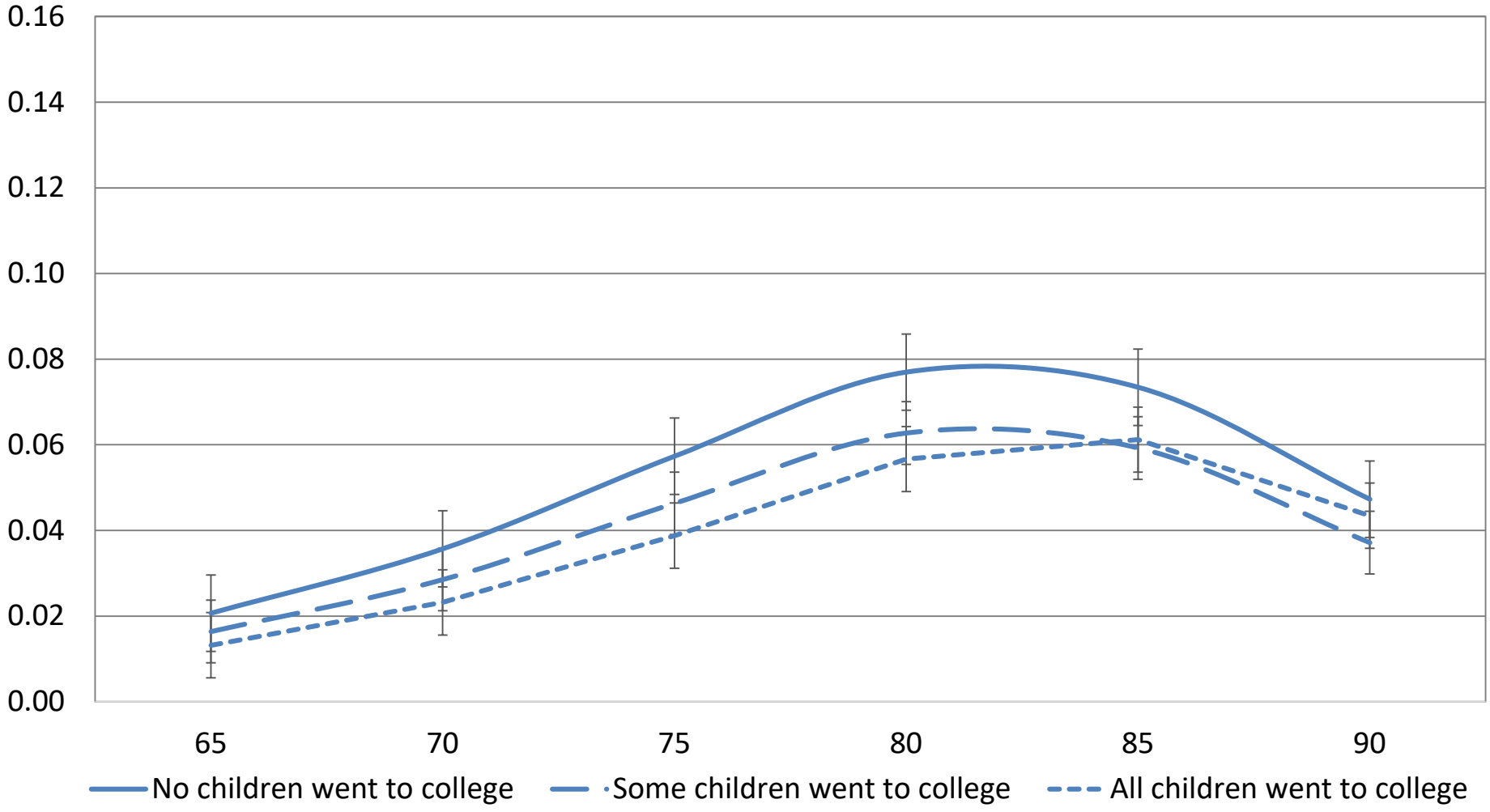


Figure 3B: Predicted probability of becoming impaired for Blacks (< HS)

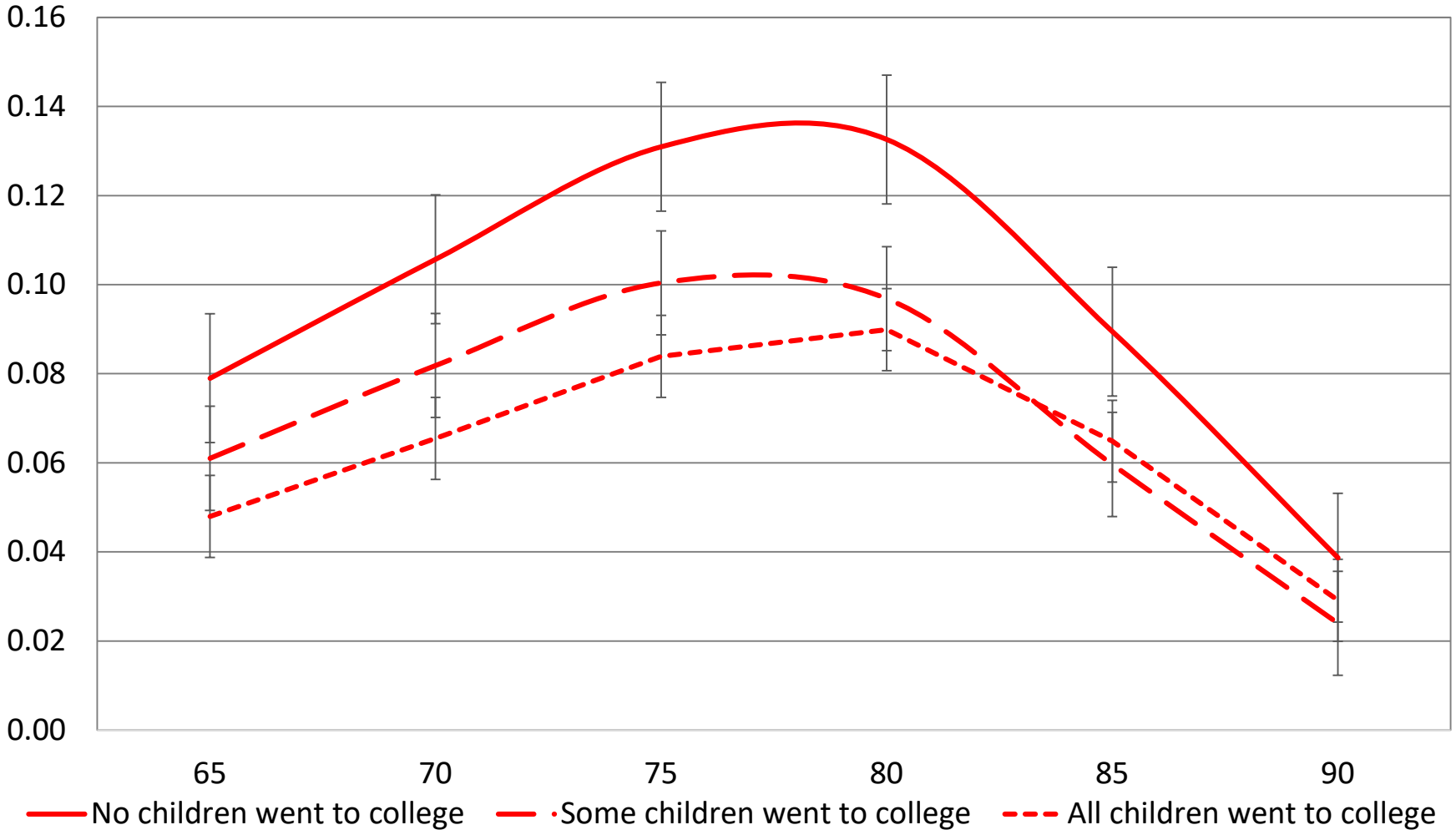


Figure 4: Predicted probability of becoming impaired by R race (< HS)