

Income-Based Gaps in Parental Engagement During Adolescence

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Motivation & Research Questions

Income-based college attainment gaps have grown in the United States over the last forty years (Bailey & Dynarski, 2011). This trend is alarming because it suggests that the increases over the past few decades in family income inequality will continue for the next generation.

College-attainment gaps have grown at the same time that income inequality has increased, but income inequality alone does not explain their growth. One complementary explanation is widening differences by income in parental investments in their adolescents' education and cognitive development.

The empirical evidence indicates there are growing differences between upper-income and college-educated parents, on the one hand, and lower-income and less-educated parents, on the other hand, in investments of time and money in their children. However, little is known about parental investments and engagement in activities focused on fostering adolescents' cognitive development and education.

Therefore, this study aims to answer two questions:

1. What are the trends by family income in parental involvement in the educational development of their adolescents?
2. Have income-based parental involvement gaps grown over time?

Data & Sample

The data come from two National Center of Education Statistics (NCES) surveys of high school students: the National Education Longitudinal Study of 1988 (NELS:88, high school class of 1992) and the Education Longitudinal Study of 2002 (ELS:2002, high school class of 2004). Sample sizes, rounded to 10 per NCES requirements, are 16,450 and 14,450, for NELS and ELS, respectively.

Outcome Measures:

Five student- and parent-reported measures of parental involvement:

Student Reported:

1. Parents think attending college after high school is most important
2. Discussed attending college with parent
3. Taken/plans to take college entrance exam, and
4. Discussed school courses with parents

Parent Reported:

5. Taken steps to financially prepare for teen's postsecondary education

Methods

I estimate levels of parental involvement by family income percentile rank and income-based gaps based on a method developed by Reardon (2011). This method allows one to estimate an income distribution from a set of ordered income categories and results in estimates of the percentile ranks corresponding to the income categories.

I fit a cubic regression model predicting a given parental investment from family income percentile rank (IncP):

$$Y = a + b\text{IncP} + c\text{IncP}^2 + d\text{IncP}^3 + \epsilon$$

From the fitted parameters, I estimate average levels of parental investments at the 10th, 50th, and 90th percentile ranks of the family income distribution and test differences in levels between cohorts.

I compute gaps in parental investments (90/10, 90/50, and 50/10) and associated standard errors for each cohort. For example, the 90/10 gap is calculated as follows:

$$\begin{aligned} \delta_{90/10}^{90} &= [\hat{Y}|\text{IncP} = .9] - [\hat{Y}|\text{IncP} = .1] \\ &= [\hat{a} + \hat{b}(.9) + \hat{c}(.81) + \hat{d}(.729)] - [\hat{a} + \hat{b}(.1) + \hat{c}(.01) + \hat{d}(.001)] \\ &= .8\hat{b} + .8\hat{c} + .728\hat{d} \end{aligned}$$

I formally test whether investment gaps changed between cohorts.

Results: Income-Based Trends

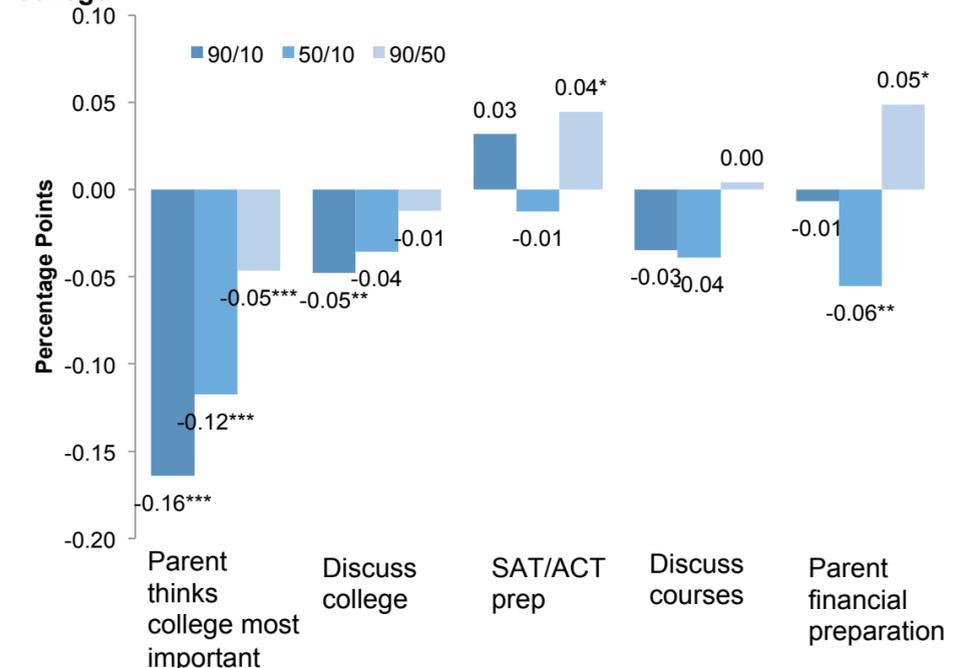
Average levels of parental engagement and investment are increasing, with larger increases among low- and median-income families.

	NELS	ELS	Δ	NELS	ELS	Δ	NELS	ELS	Δ
	10th Percentile			50th Percentile			90th Percentile		
Student-Reported Measures									
<i>Grade 10</i>									
Parents think attending college after high school is most important	0.60	0.77	0.17***	0.75	0.80	0.05***	0.87	0.86	0.01
Discussed going to college with parents	0.80	0.84	0.04*	0.87	0.87	0.00	0.94	0.93	-0.01
<i>Grade 12</i>									
Discussed school courses with parents	0.64	0.72	0.08***	0.73	0.78	0.05***	0.82	0.87	0.05***
Has taken or plans to take SAT/ACT preparation	0.56	0.57	0.01	0.56	0.56	0.00	0.67	0.72	0.05*
Parent-Reported Measure									
Taken steps to financially prepare for teen's postsecondary education	0.26	0.31	0.05**	0.49	0.48	-0.01	0.73	0.77	0.04**

*p < .05 **p < .01 ***p < .001

Results: Income-Based Gaps

90/10 parental investment gaps are stable across the two cohorts, with two exceptions: student-reported parental aspirations and discussing college.



Conclusions

Preliminary results suggest:

- Rising levels of parental investments over time, particularly among low-income families.
- Results do not indicate widening differences over time between high- and low-income families in parental investments in their adolescents' education and cognitive development.
- One possibility, not explored in this study, is that qualitative, rather than quantitative, differences in parental investments may be driving income-based gaps in college attainment. This is an important avenue for future research.

Further exploration of these relationships can contribute to understanding growing income-based educational attainment gaps.

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