Student Discipline, Race, and the Achievement Gap

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Introduction

- In March of this year, the U.S. Department of Education released the following data from the 2009-2010 school year
  - Black students comprise 18% of the student population, but account for 35% of students suspended once and 46% of students suspended more than once
  - 1 in 5 black boys will receive at least one out of school suspension
  - Over all, black students are 3.5 times more likely to be suspended or expelled than their white peers

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- Arne Duncan, Secretary of Education
  - "The undeniable truth is that the everyday education experience for too many students of color violates the principle of equity at the heart of the American promise."
- Deborah J. Vagins, senior legislative counsel at the ACLU
  - "The harsh punishments show that students of color are increasingly being pushed out of schools."
- NY Times Editorial
  - "Dept. of Ed. needs to push for procedures that keep children in school."

Relevant Research

- Recently written two articles focused on the issues of race and discipline:
  - “Understanding the Black-White School Discipline Gap", *Economics of Education Review*, 2011
  - “School Discipline: A Source or Salve for the Racial Achievement Gap", *International Economic Review*, forthcoming
- First paper asks where the disparities in discipline arise and if there is any evidence of “unfair" treatment
- Second paper examines the role of discipline in schools more broadly

Data

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- Consistent with national and other reported discipline data
  - Black students account for 26% of student population, but close to 50% of OSS
  - Vast majority of suspensions (60%) are for relatively minor infractions (rule violation, rowdiness, other)
  - Suspended students score approximately 0.5 SD's lower on end-of-grade tests

Where do the Disparities in Discipline Arise?

- Is it just differences in behavior?
  - Racial gap in office referrals is similar to gap in OSS
  - For elementary school kids, the gap in referrals is identical between black and white teachers

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- What happens once a student is referred?

	Elementary		Middle		High School	
	Black	White	Black	White	Black	White
Extensive Margin						
Pr(Suspension | Discipline Referral)	0.45*	0.35	0.40*	0.32	0.34*	0.33
Pr(Suspension | Rule Violation)	0.23*	0.17	0.28*	0.19	0.30*	0.27
Pr(Suspension | Undisciplined)	0.53*	0.37	0.35*	0.26	0.34*	0.29
Pr(Suspension | Aggressive Behavior)	0.63*	0.54	0.67*	0.58	0.83	0.85

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Intensive Margin						
E(Days Suspended | OSS)	2.06*	1.83	2.89*	2.74	2.90*	2.56
E(Days Suspended | OSS, Rule Violation)	1.89*	1.76	2.56*	2.25	2.20*	1.91
E(Days Suspended | OSS, Undisciplined)	1.95*	1.72	2.51*	2.35	2.66*	2.30
E(Days Suspended | OSS, Aggressive Behavior)	2.02*	1.78	3.38*	2.87	4.77*	3.72

Within and Across School Variation in Discipline

- Conditional on behavior, significant gaps in discipline remain
- Is this evidence of unequal treatment, or is there something else going on?

- Here's the difference in punishments for 6th and 9th graders comparing black and white students ***across the entire state***

	6th Graders		9th Graders	
Discipline Margin	Extensive	Intensive	Extensive	Intensive
Black	0.073*	0.251*	-0.008	0.391*
	(0.010)	(0.050)	(0.009)	(0.047)
Previous Offenses	0.020*	0.037*	0.016*	0.045*
	(0.002)	(0.008)	(0.002)	(0.009)
Multiple Offenses	0.069	0.801*	0.207*	0.824*
	(0.043)	(0.258)	(0.036)	(0.159)
N	18,532	10,626	18,812	14,428
School FE	N	N	N	N
Infraction Type	Y	Y	Y	Y
Addtional Controls	Y	Y	Y	Y

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- Conditional on behavior, significant gaps in discipline remain
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- Here's the difference in punishments for 6th and 9th graders comparing black and white students ***within a school***

	6th Graders				9th Graders			
Discipline Margin	Extensive		Intensive		Extensive		Intensive	
Black	0.073*	-0.004	0.251*	0.043	-0.008	0.007	0.391*	-0.032
	(0.010)	(0.009)	(0.050)	(0.047)	(0.009)	(0.008)	(0.047)	(0.047)
Previous Offenses	0.020*	0.030*	0.037*	0.083*	0.016*	0.027*	0.045*	0.096*
	(0.002)	(0.002)	(0.008)	(0.008)	(0.002)	(0.002)	(0.009)	(0.009)
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Rationale for Discipline

- Why would schools choose disparate discipline policies? What is the goal of suspension?
- Primary purpose is to maintain a healthy learning environment
  - Incapacitate offending students
  - Deter students from repeating behavior
  - Deter other students from committing infractions
- The benefits to discipline must be weighed against the cost
  - Students who are removed lose valuable classroom time

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- The benefits to discipline must be weighed against the cost
  - Students who are removed lose valuable classroom time
- Heterogeneity in the benefits and costs of discipline will generate differences in discipline policy across schools

Modeling Discipline and its Impact on Students

- While the rationale for OSS is straightforward, there remain many critics of the policy
  - Suspended students are more likely to be suspended again
  - Little evidence of any broad general deterrent effect
  - Academic costs of suspension are enormous
- However prevailing empirical evidence is not causal

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- However prevailing empirical evidence is not causal
- Develop and estimate a joint model of principal and student behavior using middle school data
  - Principal moves first, chooses utility maximizing discipline policy based on expected student behavior and achievement
  - Students make repeated behavioral choices (minor, serious, none) throughout the year, and take an end-of-grade exam

Model Components

- Discipline policy is a set of suspension lengths for various infraction types and discipline histories
- Achievement depends on days suspended and peer infractions
- Student's problem is dynamic in nature
  - Misbehaving today reduces future utility of misbehavior
  - Internalize achievement costs

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- Student's problem is dynamic in nature
  - Misbehaving today reduces future utility of misbehavior
  - Internalize achievement costs
- Allow students to differ in unobserved ways
  - Identify achievement costs of suspension by looking at variation in days suspended among students who tend to misbehave
  - Spillovers from disruptive behavior identified using variation within school across grade
  - Deterrent effect identified by slopes in punishment schedules

Key Findings - Student Outcomes

- The threat of a lengthy suspension significantly deters misbehavior
  - Increasing suspension length for all offense types reduces expected number of minor and serious offense by 15% and 6% on average
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- Peer misbehavior, particularly serious infractions, significantly reduce own achievement
  - 1 SD increase in peer minor and serious infractions reduces achievement by about 5% of SD
- Own days suspended are costly, but has a much smaller negative effect than previously believed
  - 5 days off OSS reduces achievement by 15% SD on average
  - Costs are slightly smaller for black students

Key Findings - Principal's Policy Choice

- Principals deviate significantly from achievement maximizing discipline policies
  - Suspensions are about 25% shorter than what achievement maximization would yield
  - Likely reflects external costs of suspension
- The model reproduces the observation that high minority schools use more severe discipline
  - If principals were constrained to be achievement maximizers, the discipline gap across high and low minority schools would persist

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  - Force all schools to use a policy similar to those at schools with low minority proportions
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  - Need to close cross-school differences in policy
- Rule-Based Discipline Plan
  - Force all schools to use a policy similar to those at schools with low minority proportions
  - Closes discipline gap, but widens achievement gap
- Integrate schools through random assignment
  - Schools face same types of students, choose same discipline policies in equilibrium
  - Closes both the discipline gap and achievement gap
  - However, gains in academic equity come at a cost of academic efficiency

Conclusion

- Racial disparities in school discipline are disturbing
- Partly the result of variation in discipline conditional on behavior (primarily across school)
- Results suggest that cross-school variation is consistent with principals looking out for all children in a school
- Do we trust the principal in our public schools? Do we think they have the best interests of children at heart?
- If so, why remove a tool from the toolbox of strategies available to help all children reach their highest potential?
- Work to do: OSS vs. ISS, understanding the evolution of behavior and achievement, OSS and dropout, ...