

## ONLINE APPENDIX: SUPPLEMENTARY ANALYSES

We provide several supplementary analyses that provide greater context for our results. Specifically, we ask: 1) How does missing data on teacher reports of child behaviors at age 5 shape results? 2) Do our results change if we allow for a non-linear relationship between school racial and socioeconomic composition and child suspension? 3) Is our assumption that the association between school racial and socioeconomic composition and suspension is due to differences in punitive policies consistent with the data? 4) Do our results change when we employ the non-linear decomposition method designed by Fairlie (2005)? 5) If the schools attended by Black children are more likely to change in composition or if Black children are more likely to change schools (e.g., due to housing instability), are results robust to the use of ‘age 9’ measures of school composition? 6) If Black children’s behaviors worsen more than White children’s between school entry (age 5) and the end of the observation period (age 9), the latest point at which they could be suspended within the parameters of our study, are results robust to the use of ‘age 9’ behaviors? 7) Do the drivers of the racial gap in suspension/expulsion by age 9 operate differently for girls than boys?

### *1) How does missing data on age 5 teacher reports of child behavior shape results?*

Teacher ratings of behavior at age 5 were only available for 1,039, or 30%, of the 3,515 families that participated in the age 9 survey. This is because the decision to conduct teacher surveys occurred over halfway through the age 5 survey. Analysis of patterns of item-missingness reveals that missingness on teacher reports of child behavior at school entry (age 5) was higher among older children, children with a history of father absence, and children who attended schools with higher suspension rates. To deal with this possible bias, we conduct

supplementary analyses, using children with complete cases on age 5 teacher-rated behaviors (Appendix Table A.1). Substantive patterns of results remain unchanged.

2) *Do our results change if we allow for a non-linear relationship between school racial and socioeconomic composition and child suspension?*

Based on prior research, we examine two different methods of operationalizing school racial and socioeconomic composition. First, prior research highlights that suspension/expulsion is more widely used in schools with large enrollments of students from minority and low-income backgrounds. Second, another set of studies suggest an additional disadvantage for children in schools serving a majority of students who are *both* poor and minority. We test this claim by comparing models 1 and 2 of Appendix Table A.5. We find that students who attend schools that enroll *either* high percentages of Black and Hispanic students *or* high percentages of students receiving free-or-reduced-price lunch (FRPL) are not more likely to be suspended than other students (model 1), whereas students who attend schools serving students who are *both* poor and minority are more likely to be suspended (model 2). Relative to model 1, both the linear model with the percent minority\*percent FRPL interaction (model 2) and non-linear specification (model 4) mediate similar amounts (17%-18%) of the racial gap in suspension/expulsion and explain similar amounts of variance in suspension (approximately 25%). In addition, both the continuous measures (percent Black or Latino/Hispanic and percent FRPL) and the dummy indicator for high minority and high FRPL enrollments are similarly correlated with the Office of Civil Rights's Data Collection (CRDC) measure for school-level suspension and expulsion rate (all three correlation coefficients are approximately 0.45) (model 3 vs. 2 and model 5 vs. 4).

For our purposes, the main text uses continuous measures of school racial and FRPL composition to avoid truncating variation in these key measures. However, in the sensitivity

analyses, we use the non-linear specification because it has the advantage of avoiding the need for a three-way interaction between school percent minority\*school percent FRPL\*student Black, which would complicate interpretation of the decomposition results. For this reason the sensitivity analyses use a set of dummy variables that indicate whether a student attends a school in the top 50% of Black and Hispanic enrollments, the top 50% of free or reduced-price lunch enrollments (FRPL), or both. Results are robust to both operationalizations of school racial and FRPL composition (for the decomposition using dummy variables, see Appendix Table A.2).

3) *Is our assumption that the association between school racial and socioeconomic composition and suspension is due to differences in punitive policies consistent with the data?*

The premise of prior research on school racial and socioeconomic composition is that schools serving higher percentages of minority and poor students (or higher percentages of students that are both poor and minority) are more likely to practice punitive forms of discipline (Welch and Payne 2010). We test this claim by linking school-level rates of suspension and expulsion in 2009, taken from the CRDC data described in the main text, to the FFCWS survey data. As shown in Appendix Table A.5, school-level discipline mediates the association between school racial and socioeconomic composition and suspension. Importantly, we do not include the school-level suspension and expulsion rate variable in our decomposition analysis because prior work points to a causal process whereby poor and minority school enrollments *lead to* (i.e., are endogenous to) higher levels of child suspension at the individual level, which in turn produces higher suspension/expulsion rates at the school level. By contrast, to include school-level suspension rates in our decompositions, we would need to assume that school discipline is causally prior to both child behavior/suspension and school racial and socioeconomic

composition. As this is not the claim of prior research, we instead control only for factors that are causally prior to a child's behavior/suspension at the individual level.

4) *Do our results change when we employ the non-linear decomposition method?*

Fairlie (2005) rightfully points out that the Oaxaca-Blinder decomposition method may *underestimate* the contribution of differences in levels of exposure between groups if the racial gap in suspension occurs at the tails of the distribution, or when there are large race differences in predictor variables within the decomposition. As such, we conduct the extension proposed by Fairlie (2005) in order to examine whether estimates of contributions due to differences in levels of exposure are similar. We find similar results using both the linear decomposition and the nonlinear extension (see Appendix A.4). Given this finding, and because the extension developed by Fairlie (2005) does not provide a straightforward method for differentiating between the contributions of differences in levels of exposure from differences in coefficients, which are central for testing our hypotheses, we report results from the Oaxaca-Blinder decomposition in our main analyses.

5) *Are results robust to the use of 'age 9' measures of school composition?*

If Black children are more likely than White children to move schools or to have their schools' racial and socioeconomic composition change between years 5 and 9, the use of school composition measures from the start of elementary school may provide biased estimates of the role of school composition differences. Results from the same type of decomposition shown in Table 2 but restricted to non-movers (shown in Appendix Table A.6) were nearly identical to results shown in Table 2. Second, to take account of the fact that the elementary schools attended

by Black children may become more disadvantaged over time due to White flight (Owens 2016a), we redid the analysis reported in Table 2, using measures of school composition at the end of the observation period, when children were age 9 (see Appendix Table A.3). The substantive pattern of findings remained unchanged with the use of age 9 school characteristics.

6) *If Black children's behaviors worsen more than White children's between school entry (age 5) and the end of the observation period (age 9), the latest point at which they could be suspended within the parameters of our study, are results robust to the use of 'age 9' behaviors?*

Black children's behaviors do worsen more than White children's behavior between ages 5 and 9 (21.6-11.2=10.4 points for Black children versus 17.9-10.1=7.8 points for White children). This translates into a growth in the racial gap in teacher and parent averaged reports of children's behaviors from roughly 0.15 SD to 0.32 SD between ages 5 and 9. One explanation for this trend might be that Black children are more likely than White children to experience economic hardship, family structure instability, and/or neighborhood violence, all of which are likely to increase children's behavior problems. Alternatively, the disproportionate worsening of Black children's behaviors may be due to differences in exposure to negative school environments. If Black children are more likely than White children to be suspended, and if suspension leads to an increase in behavior problems as prior research suggests (Jacobsen, Pace and Ramirez (2018), Okonofua and Eberhardt (2015)), we would expect the racial gap in behaviors to increase over time. Finally, between school entry and 4th grade, Black students may be more likely to garner negative reputations in the eyes of teachers, which could account for their more negative behavior ratings and greater suspension as they progress through elementary school (Ferguson 2001).

To take account of changes in children's behaviors after they enter school, we re-estimated our decomposition model and included averaged teacher and parent reports of children's behavior at age 9. Appendix Table A.7 and Appendix Figure A.1 display results from this second analysis. For ease of comparison, the circles overlaid on Appendix Figure A.1 indicate estimates of contributions using 'age 5' behaviors only from Figure 1 in the main text.

Our estimates of the role of between school sorting (hypothesis 1) shown in Appendix Table A.7 decrease only slightly when we add 'age 9' behaviors to the model. Assuming similar behavior and similar responses to behavior, race differences in the racial and income composition of the schools Black and White children attend account for 4.3 percentage-points (20.7%) of the 21 percentage-point race gap in suspension/expulsion ( $4.3/0.208=0.207*100=20.7\%$ ), as opposed to 4.4 percentage-points (21.2%), using 'age 5' behaviors alone. As before, the sorting of Black children into schools that serve students from both low-income and minority backgrounds accounts for almost all of the 4.3 percentage-point (20.7%) contribution.

As expected, the estimated contribution of differences in behavior (hypothesis 2) increases substantially when 'age 9' behaviors are included in the model. According to column 6 of Appendix Table A.7, race differences in behaviors account for 6.3 percentage-points (23.5%) of the 21 percentage-point racial gap [ $(0.009+0.037)/0.208=0.221*100=22.1\%$ ], as compared with only 1.8 percentage-points (8.7%) when based on 'age 5' reports alone (Table 2 and Figure 1 of the main text).

This finding suggests that the *time* at which child behaviors are measured is paramount. As we expected, behavior differences explain more of the racial gap in suspension when behaviors are measured at age 9, approximately 4th grade. The difference between the two time

points could be due to out-of-school factors that lead to a greater increase in the behavior problems of Black students, or it could be due to within-school factors, such as harsh punishment and suspension. Alternatively, the disproportionate suspension of Black children may lead teachers to rate their behaviors more negatively, as found by Okonofua and Eberhardt (2015). Although we cannot differentiate between these possibilities, it is notable that we continue to find evidence of differential treatment/support, even when we measure behavior at age 9.

Surprisingly, however, we continue to find strong support for hypothesis 3. Results in column 7 of Appendix Table A.7 (and panel 3 of Appendix Figure A.1) indicate that 14.7 percentage-points (70.1%) of the race gap in suspension can be attributed to the differential treatment/support of Black relative to White students  $[(0.093+0.054)/0.208=0.701*100=70.1\%]$  as compared to 9.5 percentage-points (45.7%) in the model using ‘age 5’ behaviors alone. While we expected that the inclusion of the ‘age 9’ behaviors would bring behavior and suspension more closely in line with one another and increase the relative importance of behavior differences in accounting for the racial gap in suspension, we did not expect the estimates for differential treatment/support to persist or increase. The latter finding tells us that even after including the more liberal measures of behaviors, which are likely to be endogenous to suspension, we continue to find strong evidence that Black children are treated/supported differently (and more harshly) than White children who enter school with the same holistic behaviors.

7) *Do the drivers of the racial gap in suspension/expulsion by age 9 operate differently for girls than boys?*

Rates of suspension and criminal justice contact are highest for Black males, and research on intersectionality suggests that the mechanisms described above may operate differently for

Black boys and girls (Collins 2015; Goff et al. 2014). Building on work by Collins (2015), Goff et al. (2014), and others, we examine the racial gap in suspension separately by gender.

Consistent with prior research, the race gap in suspension is 50% smaller among girls than boys (13.8 percentage-points versus 27.2 percentage-points) (National Center for Education Statistics 2017). To adjust for the difference in the absolute magnitude of the gender-specific racial gaps, the decomposition results separated by gender and visualized in Appendix Figure A.2 display *in proportionate terms* how much of the gender-specific racial gap is attributable to each of the three main hypotheses. Given that boys and girls of each race attend similar schools, racial differences in school composition (hypothesis 1) account for roughly 20% of the racial gap in suspension among both boys and girls. Supplementary analyses using categorical dummies for school composition (not shown) indicate that in both cases the overwhelming majority of the 20% contribution is due to the concentration of Black boys and girls in schools that are in the top half of *both* low-income and minority enrollments. Differences in behaviors at school entry account for roughly 10% of the race gap among both boys and girls (hypothesis 2).

Strikingly, the largest divergence by gender is in the extent to which the differential treatment/support of Black and White children who enter school with the same school entry behaviors accounts for the racial gaps. Appendix Figure A.2 shows that, for boys, 55% of the racial gap is associated with the differential treatment/support of Black boys who enter school with comparable behaviors as White boys, *ceteris paribus*. By contrast, the differential treatment/support of Black girls compared to White girls accounts for less than 30% of the racial gap in suspension, *ceteris paribus*. Interestingly, among girls, the other factors included in the decomposition do not account for much of the large unexplained portion of the racial gap that remains after considering the contributions of differences in the levels and coefficients associated



with behaviors and school composition (hypotheses 1-3) (see the full decomposition results shown in Appendix Tables A.9 and A.10). Future research is needed to examine other factors that may help account for suspension disparities between Black and White girls.

Appendix Table A.1. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Children with Complete Responses on Teacher Ratings of Child Externalizing Behaviors at Age 5 (Reference=Blacks)<sup>a,b</sup>

<b>Overall Decomposition Results</b>		
White Suspension Rate	0.060***	
	(0.015)	
Black Suspension Rate	0.256***	
	(0.022)	
Mean Percentage-Point Difference in Suspension Rates	-0.196***	
	(0.027)	
Percentage-Points Attributable to Differences in Levels of Exposure	-0.069	
	(0.051)	
Percentage-Points Attributable to Differences in Coefficients	-0.128*	
	(0.055)	
<b>Detailed Decomposition Results</b>		
	<b>Levels Diff.</b>	<b>Coefs. Diff.</b>
Percent of School Enrollment Black or Hispanic Start of Elementary	-0.002	0.041
	(0.052)	(0.035)
Percent of School Enrollment FRPL Start of Elementary	-0.018	-0.022
	(0.038)	(0.049)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.013	-0.065
	(0.010)	(0.036)
Family Income-to-Poverty Ratio Age 5	-0.044	0.086
	(0.027)	(0.056)
Mother Has Some College or College Degree Age 1	-0.002	-0.002
	(0.012)	(0.039)
Father Absent From Household at Any Wave Age 5	-0.007	-0.007
	(0.023)	(0.025)
Father has Ever Been in Jail or Prison Age 5	0.002	0.015
	(0.009)	(0.017)
Child's PPVT Cognitive Score Age 5	0.026	-0.216
	(0.019)	(0.209)
Child is Male	0.004	-0.043
	(0.005)	(0.026)
Child's Age (Months) Age 5	-0.000	-0.282
	(0.003)	(0.875)
Mother's Age Age 1	-0.012	0.102
	(0.014)	(0.142)
Constant		0.264
		(0.935)
Observations (N) <sup>b</sup>		661

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Negative values correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients (i.e., "effects").

<sup>b</sup>Model is restricted to only those observations with complete cases on all variables, including teacher ratings of child externalizing problems at age 5.

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.2. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Children with Categorical Measures of School Composition at Age 5 to Capture Schools that Enroll a Majority of Both Poor and Minority Students (Reference=Blacks)<sup>a</sup>

<b>Overall Decomposition Results</b>		
White Suspension Rate	0.070***	(0.010)
Black Suspension Rate	0.277***	(0.011)
Mean Percentage-Point Difference in Suspension Rates	-0.207***	(0.015)
Percentage-Points Attributable to Differences in Levels of Exposure	-0.078***	(0.021)
Percentage-Points Attributable to Differences in Coefficients	-0.129***	(0.024)
<b>Detailed Decomposition Results</b>		
	Levels Diff.	Coefs. Diff.
School is both in Top Half of Minority and FRPL Enrollments, Start of Elementary	-0.033**	0.003
	(0.012)	(0.003)
School is in Top Half of FRPL Enrollments in Sample, Start of Elementary	-0.006	0.001
	(0.004)	(0.001)
School is in Top Half of Minority Enrollments in Sample, Start of Elementary	0.001	-0.009
	(0.001)	(0.006)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.018***	-0.096***
	(0.005)	(0.022)
Family Income-to-Poverty Ratio Age 5	-0.019	0.017
	(0.013)	(0.027)
Mother Has Some College or College Degree Age 1	-0.009	0.005
	(0.006)	(0.019)
Father Absent From Household at Any Wave Age 5	-0.012	-0.011
	(0.010)	(0.017)
Father has Ever Been in Jail or Prison Age 5	-0.004	0.002
	(0.004)	(0.011)
Child's PPVT Cognitive Score Age 5	0.023**	-0.069
	(0.009)	(0.106)
Child is Male	0.001	-0.063***
	(0.004)	(0.015)
Child's Age (Months) Age 5	0.001	0.215
	(0.001)	(0.375)
Mother's Age Age 1	-0.002	-0.023
	(0.005)	(0.071)
Constant		-0.101
		(0.407)
Observations (N)	2396	

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0).

Negative values correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients (i.e., "effects").

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.3. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Children Using Age 9 Measures of School Composition (Reference=Blacks)<sup>a</sup>

<b>Overall Decomposition Results</b>		
White Suspension Rate	0.070***	
	(0.010)	
Black Suspension Rate	0.277***	
	(0.011)	
Mean Percentage-Point Difference in Suspension Rates	-0.207***	
	(0.015)	
Percentage-Points Attributable to Differences in Levels of Exposure	-0.085***	
	(0.024)	
Percentage-Points Attributable to Differences in Coefficients	-0.122***	
	(0.027)	
<b>Detailed Decomposition Results</b>		
	<b>Levels Diff.</b>	<b>Coefs. Diff.</b>
Percent of School Enrollment Black or Hispanic, Age 9	-0.005	0.038
	(0.024)	(0.021)
Percent of School Enrollment FRPL, Age 9	-0.033*	-0.056
	(0.017)	(0.029)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.020***	-0.107***
	(0.006)	(0.022)
Family Income-to-Poverty Ratio Age 5	-0.018	0.015
	(0.014)	(0.028)
Mother Has Some College or College Degree Age 1	-0.009	0.004
	(0.006)	(0.019)
Father Absent From Household at Any Wave Age 5	-0.013	-0.012
	(0.011)	(0.017)
Father has Ever Been in Jail or Prison Age 5	-0.003	0.004
	(0.004)	(0.011)
Child's PPVT Cognitive Score Age 5	0.017	-0.026
	(0.009)	(0.107)
Child's Age (Months) Age 9	0.001	0.158
	(0.001)	(0.380)
Mother's Age Age 1	-0.003	-0.008
	(0.005)	(0.071)
Constant		-0.131
		(0.414)
Observations (N)	2396	

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Note that negative values here correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients.

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.4. Comparison of Contributions of Differences in Levels of Exposure to the Race Gap in Suspension Based on the Fairlie Non-Linear Decomposition Expansion versus the Oaxaca-Blinder Linear Decomposition  
(Reference=Blacks)<sup>a</sup>

	Fairlie Non-Linear Decomposition Expansion	Oaxaca-Blinder Linear Decomposition
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.016*** (0.002)	-0.011 (0.024)
Percent of School Enrollment Black or Hispanic Start of Elementary	-0.012 (0.021)	-0.031 (0.017)
Percent of School Enrollment FRPL Start of Elementary	-0.028 (0.014)	-0.018*** (0.005)
Family Income-to-Poverty Ratio Age 5	-0.019 (0.010)	-0.019 (0.013)
Mother Has Some College or College Degree Age 1	-0.008 (0.005)	-0.010 (0.006)
Father Absent From Household at Any Wave Age 5	-0.012 (0.009)	-0.011 (0.010)
Father has Ever Been in Jail or Prison Age 5	-0.003 (0.004)	-0.004 (0.004)
Child's PPVT Cognitive Score Age 5	0.019* (0.008)	0.024** (0.009)
Child is Male	-0.001 (0.002)	0.001 (0.004)
Child's Age (Months)	0.001 (0.001)	0.001 (0.001)
Mother's Age Age 1	-0.001 (0.004)	-0.002 (0.005)
Observations	2396	2396

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Note that negative values here correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors. Displaying only contributions associated with differences in levels of exposure ("Levels Differences") due to the nature of the Fairlie non-linear decomposition expansion.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients (i.e., "effects").

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.5. Are Schools that are Both Poor and Minority-Serving Even More Punitive than Poor White Schools and Non-Poor Minority Schools, Both for Individual Children in the Sample and at the Macro Level?

	(1)	(2)	(3)	(4)	(5)
Non-Hispanic Black	0.135*** (0.021)	0.136*** (0.021)	0.122*** (0.021)	0.137*** (0.020)	0.119*** (0.020)
Proportion of School Enrollment Black or Hispanic, Start of Elementary	0.510 (0.370)	0.711+ (0.371)	0.563 (0.370)		
Proportion of School Enrollment FRPL, Start of Elementary	0.666 (0.416)	0.730+ (0.423)	0.261 (0.434)		
Proportion Black or Hispanic*Proportion FRPL, Start of Elementary		22.608** (8.284)	22.721** (8.254)		
Poor Minority School, Start of Elementary = 1				0.075*** (0.022)	0.045* (0.023)
Non-Poor Minority School, Start of Elementary = 1				0.049 (0.031)	0.032 (0.031)
Poor White School, Start of Elementary = 1				0.044+ (0.027)	0.013 (0.027)
School-Level Prevalence of Suspension and Expulsion in 2009 (Roughly Age 9)			1.185*** (0.314)		1.148*** (0.311)
School-Level Prevalence of Suspension and Expulsion in 2009 <sup>2</sup>			-1.962+ (1.050)		-1.811+ (1.050)
Family, Child, and Behavioral Controls	X	X	X	X	X
Observations	2,396	2,396	2,396	2,396	2,396
R-squared	0.161	0.163	0.173	0.161	0.171

Robust standard errors in parentheses. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.10$  (two-tailed t-tests).  
*Source:* The Fragile Families and Child Well-Being Study, Waves 1-5, with merged data on school-level suspension and expulsion rates from the Civil Rights Data Collection (CRDC).

Appendix Table A.6. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Children Who Do Not Change Elementary Schools (i.e., "Non-Movers")  
(Reference=Blacks)<sup>a</sup>

<b>Overall Decomposition Results</b>		
White Suspension Rate	0.111*** (0.022)	
Black Suspension Rate	0.318*** (0.016)	
Mean Percentage-Point Difference in Suspension Rates	-0.207*** (0.027)	
Percentage-Points Attributable to Differences in Levels of Exposure	-0.000 (0.031)	
Percentage-Points Attributable to Differences in Coefficients	-0.207*** (0.039)	
<b>Detailed Decomposition Results</b>		
	<b>Levels Diff.</b>	<b>Coefs. Diff.</b>
Percent of School Enrollment Black or Hispanic Start of Elementary	0.040 (0.031)	0.042 (0.049)
Percent of School Enrollment FRPL Start of Elementary	-0.044* (0.022)	-0.050 (0.064)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.008 (0.009)	-0.128** (0.047)
Family Income-to-Poverty Ratio Age 5	0.001 (0.013)	-0.022 (0.040)
Mother Has Some College or College Degree Age 1	-0.004 (0.006)	0.000 (0.028)
Father Absent From Household at Any Wave Age 5	-0.006 (0.009)	0.010 (0.044)
Father has Ever Been in Jail or Prison Age 5	-0.002 (0.003)	0.006 (0.030)
Child's PPVT Cognitive Score Age 5	0.026* (0.012)	0.039 (0.194)
Child is Male	-0.003 (0.006)	-0.030 (0.027)
Child's Age (Months) Age 5	0.001 (0.002)	0.392 (0.698)
Mother's Age Age 1	-0.001 (0.004)	-0.104 (0.123)
Constant		-0.362 (0.760)
Observations (N)		1077

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Note that negative values here correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients.

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.7. Contributions of Racial Differences in School Composition (H1) and Child Behaviors at **Ages 5 and 9** (H2) and in the "Effects" of the Same Behaviors in Similar Schools (H3) to the Black/White Gap in Suspension or Expulsion by Age 9  
(Two-Way Decomposition Model; Reference: Blacks)<sup>a</sup>

Factors	Predictor	Means		Differ- ence in Means (3) ( $\bar{x}_W - \bar{x}_B$ )	OLS Regression Coefficients			Contribution of Differences in Levels of Exposure (6) <sup>b</sup> ( $(\bar{x}_W - \bar{x}_B)\beta_B$ )	Contribution of Differences in 'Effects' / Slopes (7) <sup>c</sup> ( $(\beta_W - \beta_B)\bar{x}_B$ )	
		(1) $\bar{x}_W$	(2) $\bar{x}_B$		(4) $\beta_W$	Sig	(5) $\beta_B$			Sig
School Factors (H1)	Proportion of School Enrollment Black or Hispanic at Start of Elementary School	0.317	0.801	-0.484	0.133	***	0.039	0.019	-0.030	
	Proportion of School Enrollment Free-or-Reduced-Price Lunch (FRPL) at Start of Elementary School	0.386	0.696	-0.310	-0.054		0.079	0.024	0.051	
Behavior Factors (H2-H3)	Average of Teacher- and Parent-Reported Externalizing Problems Score, Age 5	10.091	11.200	-1.109	0.003	+	0.008	***	0.009	0.054
	Average of Teacher- and Parent-Reported Externalizing Problems Score, Age 9	17.920	21.637	-3.717	0.005	***	0.010	***	0.037	0.093
Controls	Family Income-to-Poverty Ratio, Age 5	3.162	1.456	1.706	-0.004		-0.005	0.009	-0.003	
	Mother Has Some College or College Degree, Age 1	0.556	0.305	0.251	-0.028		-0.044	+	0.011	-0.009



Father Absent from Household at Any Wave, Age 5	0.476	0.832	-0.356	0.006	0.016	0.006	0.005
Father has Ever Been in Jail or Prison, Age 5	0.354	0.550	-0.196	0.023	0.010	0.002	-0.005
Child's PPVT Cognitive Score, Age 5	103.101	91.260	11.841	0.001	0.002	**	-0.024
Child's Sex (Male=1), Age 1	0.526	0.519	0.007	0.039	*	0.136	***
Child's Age (in Months), Age 9	111.731	112.274	-0.543	0.001	-0.001	0.000	-0.218
Mother's Age, Age 1	26.931	24.287	2.644	-0.002	0.000	0.000	0.054
Constant	1.000	1.000	0.000	-0.244	-0.274	0.000	-0.030
Observations (N)	700	1696	700	1696			

Overall Contribution of to the Racial Gap of Differences in Levels vs Slopes in Percentage-Point Units (/100): 0.092 0.117

Proportion of the Overall Race Gap Driven by Differences in Levels vs. Effects/Slopes: 0.439 0.561

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Controls and the constant are included in the decomposition but not shown (see Appendix for complete decomposition table).

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients (i.e., "effects").

<sup>b</sup>Values in Column (6) are multiplied by -1 (to achieve positive values for gap-widening contributions and vice versa for gap-narrowing contributions).

<sup>c</sup>Values in Column (7) are multiplied by -1 (to achieve positive values for gap-widening contributions and negative values for gap-narrowing contributions).

*Source:* Fragile Families and Child Well-Being Study, Waves 1-5. Sample is restricted to the 2,396 Black and White boys and girls who remained in the study from birth (wave 1) through age 9 (wave 5). Multiple imputation of 20 datasets is used to handle item-missingness on all but the dependent variable (suspension/expulsion).

Appendix Table A.8. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Children (Reference=Whites)<sup>a</sup>

<b>Overall Decomposition Results</b>		
White Suspension Rate	0.070*** (0.010)	
Black Suspension Rate	0.277*** (0.011)	
Mean Percentage-Point Difference in Suspension Rates	-0.207*** (0.015)	
Percentage-Points Attributable to Differences in Levels of Exposure	-0.073*** (0.018)	
Percentage-Points Attributable to Differences in Coefficients	-0.134*** (0.022)	
<b>Detailed Decomposition Results</b>		
	<b>Levels Diff.</b>	<b>Coefs. Diff.</b>
Percent of School Enrollment Black or Hispanic Start of Elementary	-0.062** (0.022)	0.083 (0.053)
Percent of School Enrollment FRPL Start of Elementary	0.011 (0.016)	-0.095 (0.051)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Year 5	-0.008** (0.003)	-0.105*** (0.025)
Family Income-to-Poverty Ratio Age 5	-0.010 (0.006)	0.008 (0.013)
Mother Has Some College or College Degree Age 1	-0.007 (0.006)	0.003 (0.010)
Father Absent From Household at Any Wave Age 5	-0.003 (0.008)	-0.019 (0.030)
Father has Ever Been in Jail or Prison Age 5	-0.005 (0.005)	0.004 (0.017)
Child's PPVT Cognitive Score Age 5	0.015 (0.008)	-0.071 (0.094)
Child is Male	0.000 (0.001)	-0.060*** (0.015)
Child's Age (Months) Age 5	-0.000 (0.001)	0.144 (0.378)
Mother's Age Age 1	-0.004 (0.005)	-0.022 (0.064)
Constant		-0.004 (0.411)
Observations (N)		2396

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Note that negative values here correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses White children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and White children's means as the reference when calculating each variable's contribution due to racial differences in coefficients.

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.9. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Boys (Reference=Blacks)<sup>a</sup>

<b>Overall Decomposition Results</b>		
White Suspension Rate	0.101***	
	(0.016)	
Black Suspension Rate	0.373***	
	(0.016)	
Mean Percentage-Point Difference in Suspension Rates	-0.272***	
	(0.023)	
Percentage-Points Attributable to Differences in Levels of Exposure	-0.124***	
	(0.038)	
Percentage-Points Attributable to Differences in Coefficients	-0.148***	
	(0.042)	
<b>Detailed Decomposition Results</b>		
	<b>Levels Diff.</b>	<b>Coefs. Diff.</b>
Percent of School Enrollment Black or Hispanic Start of Elementary	-0.004	0.065*
	(0.035)	(0.032)
Percent of School Enrollment FRPL Start of Elementary	-0.051*	-0.074
	(0.025)	(0.045)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.022*	-0.154***
	(0.009)	(0.037)
Family Income-to-Poverty Ratio Age 5	-0.053*	0.069
	(0.024)	(0.045)
Mother Has Some College or College Degree Age 1	-0.014	0.005
	(0.010)	(0.031)
Father Absent From Household at Any Wave Age 5	-0.019	-0.022
	(0.016)	(0.028)
Father has Ever Been in Jail or Prison Age 5	-0.004	0.004
	(0.007)	(0.017)
Child's PPVT Cognitive Score Age 5	0.040**	-0.172
	(0.014)	(0.160)
Child's Age (Months) Age 5	0.000	-0.042
	(0.002)	(0.588)
Mother's Age Age 1	0.003	-0.080
	(0.009)	(0.114)
Constant		0.252
		(0.639)
Observations (N)		1248

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Note that negative values here correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients.

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Table A.10. Oaxaca-Blinder Decomposition of the Mean Race Gap in Suspension Among Black and White Girls (Reference=Blacks)<sup>a</sup>

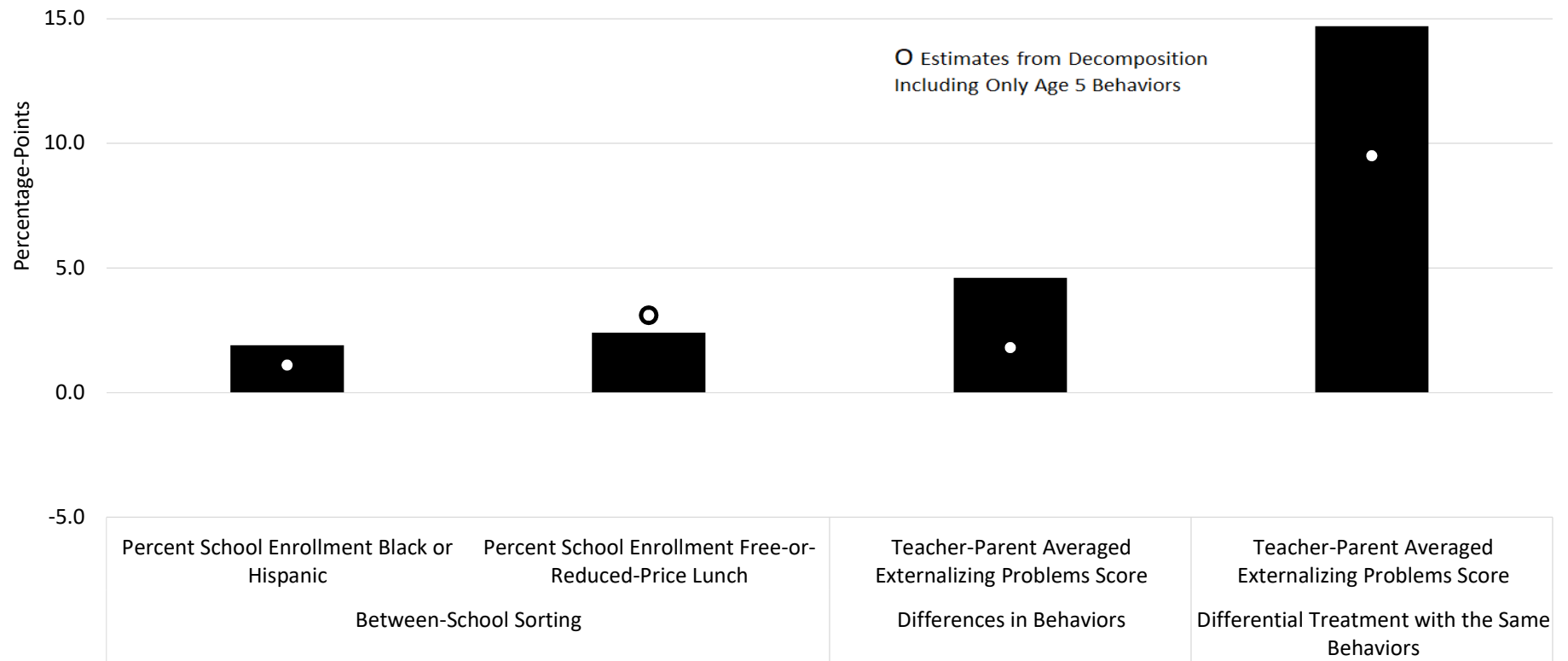
<b>Overall Decomposition Results</b>		
White Suspension Rate	0.036***	
	(0.010)	
Black Suspension Rate	0.174***	
	(0.013)	
Mean Percentage-Point Difference in Suspension Rates	-0.138***	
	(0.017)	
Percentage-Points Attributable to Differences in Levels of Exposure	-0.054	
	(0.029)	
Percentage-Points Attributable to Differences in Coefficients	-0.084*	
	(0.033)	
<b>Detailed Decomposition Results</b>		
	<b>Levels Diff.</b>	<b>Coefs. Diff.</b>
Percent of School Enrollment Black or Hispanic Start of Elementary	-0.018	-0.012
	(0.031)	(0.026)
Percent of School Enrollment FRPL Start of Elementary	-0.012	-0.022
	(0.021)	(0.034)
Average of Teacher and Parent Ratings of Child Externalizing Behavior Age 5	-0.014*	-0.036
	(0.006)	(0.025)
Family Income-to-Poverty Ratio Age 5	0.003	-0.016
	(0.015)	(0.032)
Mother Has Some College or College Degree Age 1	-0.005	0.003
	(0.007)	(0.022)
Father Absent From Household at Any Wave Age 5	-0.006	-0.004
	(0.013)	(0.020)
Father has Ever Been in Jail or Prison Age 5	-0.003	0.003
	(0.005)	(0.014)
Child's PPVT Cognitive Score Age 5	0.006	0.065
	(0.011)	(0.133)
Child's Age (Months) Age 5	0.001	0.490
	(0.002)	(0.446)
Mother's Age Age 1	-0.005	0.033
	(0.006)	(0.082)
Constant		-0.588
		(0.490)
Observations (N)		1148

\*\*\* p<0.001, \*\*p<0.01, \* p<0.05, + p<0.10 (two-tailed t-tests for a statistically significant difference from 0). Note that negative values here correspond to 'gap widening' factors; positive values correspond to 'gap narrowing' factors.

<sup>a</sup>This model uses Black children's coefficients as the reference when calculating each variable's contribution to the gap in schooling due to racial differences in mean levels and Black children's means as the reference when calculating each variable's contribution due to racial differences in coefficients.

Source: The Fragile Families and Child Well-Being Study, Waves 1-5.

Appendix Figure A.1. Estimate of the Contributions of Between-School Sorting, Behavior Differences, and Differential Treatment/Support of Children who Entered School with Comparable Behaviors to the Racial Gap in Suspension/Expulsion: Including Age 5 and Age 9 Behavior Ratings



Appendix Figure A.2. Role of Differences in School Composition, Behavior, and Differential Treatment/  
 Support of Children who Entered School with Comparable Behaviors in Accounting for the Racial Gap by  
 Gender: Including Age 5 Behaviors

