DISCIPLINE PRACTICES AND DISPARITIES IN SOUTH SEATTLE AND SOUTH KING COUNTY

ABOUT THE ROAD MAP PROJECT

The Road Map Project is a collective impact initiative that began in 2010 to improve student achievement from cradle through college and career in seven King County, Washington school districts: Auburn, Federal Way, Highline, Kent, Renton, (South) Seattle, and Tukwila. Together, this region is home to 92 percent of the county's high-poverty schools. Among its 127,290 K-12 students: 71 percent are of color, 55 percent are low-income, and 22 percent are English-language learners.

Through multisector collaboration with hundreds of partners and individuals, the Road Map Project aims to increase equitable policies and practices in education systems to eliminate opportunity and achievement gaps, and for 70 percent of its region's youth to earn a college or career credential by 2030.

ABOUT CCER AND ITS DATA TEAM

The Community Center for Education Results (CCER) is a nonprofit created to staff and support the Road Map Project.

The CCER Data Team developed and maintains an education data warehouse and conducts analysis and research on behalf of community partners working for student success. The Data Team centralizes the wealth of information made available by educational institutions and governments to illuminate inequity, build better systems, and support continuous improvement.

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Road Map Project
Supported by CCER

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ISSUE

Eliminating structural barriers to educational attainment is critical in the Road Map Project region. As students and families well know, and as corroborated by education research, students of color continue to experience more frequent and more severe discipline compared with their White peers (Bottiani, Bradshaw, & Mendelson, 2015; Losen, Hodson, Keith, Morrison, & Belway, 2015).

This disparity can be damaging to students by increasing their likelihood of school disengagement and reducing the likelihood of postsecondary attainment. These associations are long-term; students need a college degree or credential to get a living-wage career, especially in the local knowledge-based economy (Road Map Project, 2017).

Racial equity for our region's students is a central concern. There are promising state legislation and school district policies and practices aimed at reducing racial inequities in school discipline. These efforts have also created a new landscape of discipline reporting. Conversations with both the South King County Discipline Coalition and several Road Map Project K-12 school districts have highlighted discrepancies between how discipline has been commonly reported, and the types of disciplinary actions students currently experience.

AIM

The goal of this Data Brief is to examine disparities in race using likelihood models for exclusionary discipline. This brief goes beyond the tracking of suspension and expulsion rates and utilizes statistical models to highlight racial inequities in discipline. It is intended to support and engage districts, advocates, and schools in new methods to examine findings, barriers, and potential improvements for reporting student discipline. The following key questions emerged from discussions with the South King County Discipline Coalition and Road Map Project K-12 school district staff.

The CCER Data Team used the OSPI Comprehensive Education Data and Research System (CEDARS) student enrollment records and discipline file to determine the prevalence of discipline and produce a series of predictive analyses. The questions below guided the analyses presented in this brief.

QUESTIONS

1 How has Washington State Office of the Superintendent of Public Instruction (OSPI) discipline reporting changed over the years?

2 What is the relationship among student race and ethnicity, the type of discipline behavior (e.g., bullying), and the intervention received (e.g., out-of-school suspension)?

3 When controlling for behavior type, do students of color receive higher rates of exclusionary discipline compared to their white peers?

WHAT IS OSPI K-12 DISICPLINE DATA?

Though an oversimplification of what are often complex interactions and processes, the figure below provides an overview of how disciplinary events are tracked by the state. It shows student-level data in the OSPI discipline file includes only two levels of information: the student's behavior and the intervention the student received, as reported by school staff and later submitted to OSPI.

DISCIPLINE DATA DOCUMENTATION

1.	2.	3.	4.
STUDENT INTERACTION	ADULT EVALUATION	BEHAVIOR CODED	INTERVENTIION CODED

ANNUALLY REPORTED TO OSPI

RECORDED IN THE SCHOOL INFORMATION SYSTEM AND DISTRICT DATABASES
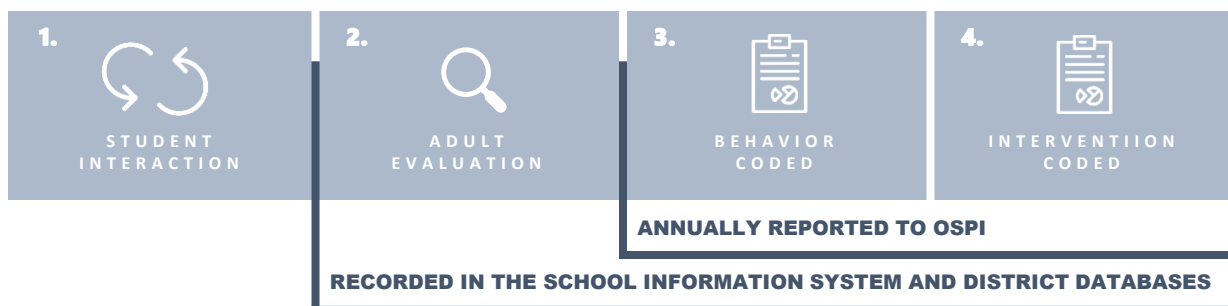
Coding a behavior and resulting intervention (steps 3 and 4) do not tell the full story of what happened—including the incident, the school staff who intervened, what staff said to the student, and the decision-making process leading to the disciplinary measure. Furthermore, while school information systems may capture such details, OSPI does not collect this information. OSPI maintains a limited set of behavior and intervention codes. Individual districts can maintain sets with much greater detail. These more detailed codes, however, are not reported the same way across Road Map Project school districts' information system platforms. Districts with more and/or different behavior codes than the minimum required by the state must aggregate these codes to comply with OSPI's coding scheme.

REPORTING OVER TIME

Washington State discipline reporting has changed with an evolving state policy landscape. Following the creation of the Educational Opportunity Gap Oversight and Accountability Committee (EOGOAC), the state passed discipline legislation focused on racial disparities in discipline, including the 2013 Strengthening Student Educational Outcomes Act (ESSB 5946) and the 2016 Opportunity Gap Bill (SHB 1541). Road Map Project K-12 school districts have also implemented many new school- and district-level policies and practices to reduce discipline and improve equity.

New state and district discipline policies and practices have all contributed to discipline reporting for several years. As described in the next few pages, there has been a decrease in the use of long-term suspensions, but with a simultaneous rise in the use of the intervention category "Other."

OSPI DISCIPLINE FILE

The number of OSPI discipline behavior codes have increased over time to include more specific behavior categories. In 2013 there were 10 categories; in 2016, there were 20. In 2015, codes for "disruptive conduct" and "failure to cooperate" were added, seemingly subjective and ambiguous categories describing student behavior.

It is important to note that some of the region's districts collect more detailed discipline codes (Renton uses more than 75 codes to describe a student's behavior that leads to a disciplinary measure), but this finer-grain understanding is not consistent across districts and not required at the state level. Thus, many of the behaviors captured within each district's data are ultimately aggregated to the following codes when submitted to OSPI.

DEFINITIONS

BEHAVIOR CODE | A code associated with a type of student behavior that comes from a list typically developed and maintained by school districts assigned by OSPI.

INTERVENTION CODE | A code associated with a type of discipline given to a student. These codes also come from a list typically developed and maintained by school districts and are aggregated by OSPI.

EXCLUSIONARY DISCIPLINE | The removal of a student from school grounds as a result of a behavior that results in intervention codes for: expulsion, long-term, or short-term suspension. This does not include "in-school-suspension".

Office of Superintendent of Public Instruction Behavior Code Categories

Behavior Category[1]	Behavior Code	Academic Year			
		2012-13	2013-14	2014-15	2015-16
Plagiarism	Academic Dishonesty/Plagiarism				•
Miscellaneous	Other Behavior Resulting in Intervention	•	•	•	•
	Failure to Cooperate			•	•
	Disruptive Conduct			•	•
	Multiple Minor Accumulated Incidents				•
Drugs & Alcohol	Illicit Drug	•			
	Alcohol	•	•	•	•
	Possession of a Weapon	•	•	•	•
	Tobacco	•	•	•	•
	Illicit Drug (Other than marijuana)		•	•	•
	Marijuana		•	•	•
Theft & Vandalism	Destruction of Property/Vandalism				•
	Theft or Possession of Stolen Property				•
Violence, Possession & Harassment	Violence with Major Injury	•	•	•	•
	Bullying	•	•	•	•
	Violence Without Major Injury	•	•	•	•
	Fighting Without Major Injury	•	•	•	•
	Possession of a Weapon	•	•	•	•
	Serious Bodily Injury		•	•	•
	Harassment, Intimidation or Bullying			•	
	Discriminatory Harassment				•
	Sexual Harassment				•
	Sexually Inappropriate Conduct				•

Note. These Behavior codes are the minimum requirement for discipline categories, thus districts may have a more detailed set. "•" indicates that the behavior code was present in a given year. [1]Behavior Category is a grouping category used to organize the above table and is not a category used by OSPI.

The Washington State Office of Superintendent of Public Instruction (OSPI) uses the term "intervention" to describe the type of discipline the student received. The following table shows the different intervention types captured in the OSPI data. As with behavior codes, districts may keep a more detailed list of interventions than is not fully captured by OSPI. For example, some districts collect data on a range of intervention types that include but are not limited to punitive consequences such as detention, loss of privileges, and additional behavior supports. However, these details are often lost when results are aggregated to fit state categories.

Office of Superintendent of Public Instruction Intervention Types

Label Used in Report	OSPI Key and Definition	
Emergency Expulsion	EE	Student was expelled immediately by a school district in emergency situations
Expulsion	EX	Student was expelled from school for remainder of the school year
10 or More Days Suspension	LS	Student was suspended from school for more than 10 consecutive school days
Less than 10 days Suspension	SS	Student was suspended for 10 or fewer consecutive school days
In-School Suspension	IS	Student was temporarily removed from regular classroom and placed under supervision of school personnel
No Intervention	NA	No intervention applied
Other Intervention	OT	Student received a disciplinary intervention that is not described in the above codes

Note: "exclusionary discipline" is a combination of LS and SS OSPI intervention codes. Source. Office of Superintendent of Public Instruction (2015) CEDARS Data Manual Appendices for the 2015-16 Academic Year. Retrieved from http://www.k12.wa.us/CEDARS/pubdocs/2015-16/2015-16-CEDARSAppendices.pdf

Using just the state codes, the following table shows the breakdown of disciplinary actions given in response to each type of behavior for one academic year in the Road Map Project's K-12 schools.

Road Map Project Region K-12 Frequency of Intervention by Behavior

2015-16 Academic Year

Behavior	Intervention								Total K-12 Students
Behavior Category	OSPI Behavior Code	Other Intervention %	Less than 10 days suspension %	No Intervention %	In-School Suspension %	10 or more days suspension %	Expulsion %	Emergency Expulsion %	N
Plagiarism	Academic Dishonesty/Plagiarism	85.9	1.4	6.6	6.2				439
Miscellaneous	Disruptive Conduct	70.6	7.6	12.8	8.8	0.1	0.1	0.0	12,764
	Failure to Cooperate	62.8	10.9	20.5	5.3	0.3	0.0	0.2	7,826
	Multiple Minor Accumulated Incidents	67.6	18.3	2.8	9.9	1.4			64
	Other Behavior Resulting in Intervention		77.6		18.5	2.6	0.6	0.8	2,227
Drugs & Alcohol	Alcohol	5.9	56.2	1.6	18.2	17.1	1.1		156
	Illicit Drug (Other than Marijuana)	1.0	41.9	1.9	10.5	37.1	7.6		64
	Marijuana	4.5	53.6	0.5	18.9	20.7	1.4	0.4	739
	Tobacco	42.5	29.1	2.2	25.1	1.1			177
Theft & Vandalism	Destruction of Property/Vandalism	45.4	28.7	19.1	6.5		0.3		303
	Theft or Possession of Stolen Property	38.9	34.9	14.7	10.2	1.4			585
Violence, Possession & Harassment	Bullying	44.8	23.6	12.7	16.3	1.5	0.9	0.2	1,566
	Discriminatory Harassment	35.8	39.8	0.8	20.3	1.6		1.6	108
	Fighting without Major Injury	23.9	51.3	12.0	12.0	0.4	0.4	0.0	3,255
	Serious Bodily Injury		100.0						Sup
	Sexual Harassment	32.0	41.7		22.9	2.9		0.6	155
	Sexually Inappropriate Conduct	41.4	30.1	8.3	18.1	0.8		1.5	255
	Violence with Major Injury	49.3	25.0	14.0	9.5	1.2	0.6	0.4	147
	Violence without Major Injury	24.8	50.3	2.5	9.9	6.8	3.1	2.5	3,541
	Possession of a Weapon	13.8	52.1	1.7	14.3	9.2	7.3	1.7	375

Note. [1]Behavior Category is a grouping category is used to organize the above table and is not a category used by OSPI. Source. CCER education data warehouse: OSPI CEDARS student-level data. Sup=Suppressed due to small sample size (<10).

# BEHAVIOR, INTERVENTION, AND RACE

EXCLUSIONARY DISCIPLINE

Short-term suspension
Long-term suspension
Emergency Expulsion
Expulsion

Note. Short-term is less than 10-day suspended and Long-term is 10 or more days suspended.

State, regional, and district reporting have commonly examined exclusionary discipline rates. Exclusionary discipline in this report will be defined as a composite of the four most severe discipline interventions: long-term suspension, short-term suspension, emergency expulsion, and expulsion. This definition is applied to the following analyses.

EXCLUSIONARY DISCIPLINE TRENDS

Exclusionary Discipline Student Rates for Road Map Project Region 9th Graders by Academic Year and Race/Ethnicity for 2015-16
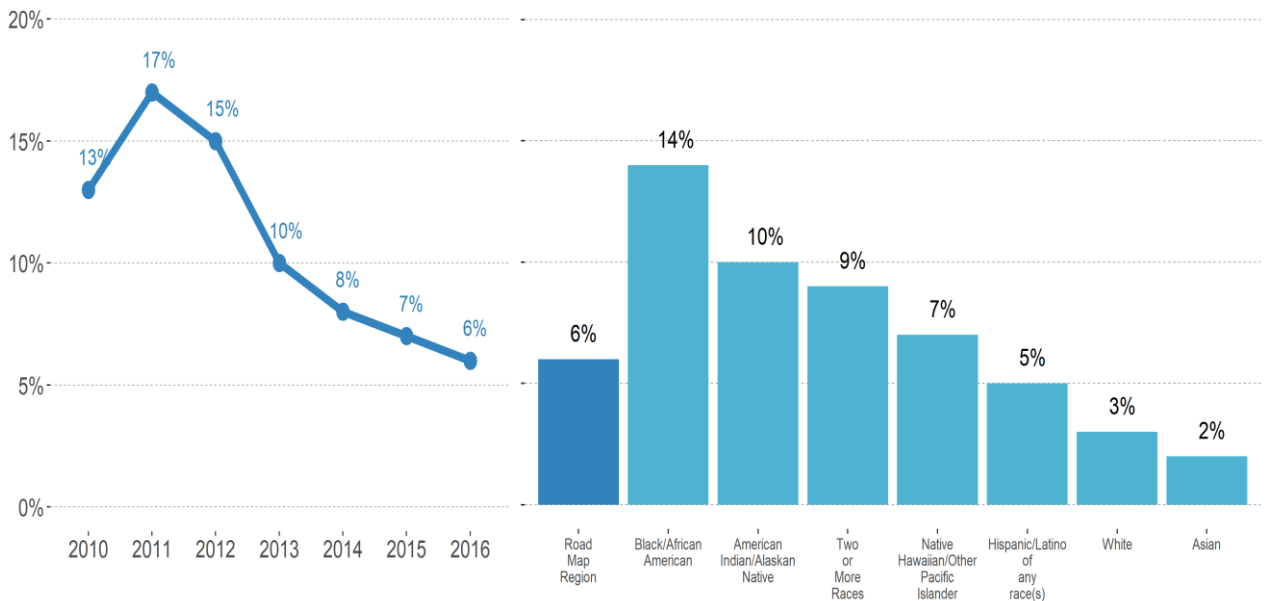
The previous graphs uses the Road Map Projects definition for its early warning indicator for discipline in the 9th grade. While exclusionary discipline rates in the region have decreased since the 2010-11 academic year, gaps by race/ethnicity persist. Exclusionary discipline alone does not tell the full story of student discipline and the range of interventions students receive.

As state discipline policies change, so do the trends for intervention types being issued. The following table shows intervention types (i.e. of all discipline infractions in an academic year, what proportion were short-term suspensions, long-term suspensions, "other" etc.). This table shows the change over time for the use of each intervention code across all behaviors within the Road Map Project region from the 2012-13 to 2015-16 academic years.

Proportional Use of Discipline Interventions in the Road Map Project Region by Academic Year

	Academic Year							
	2012-13		2013-14		2014-15		2015-16	
Intervention	n	%	n	%	n	%	n	%
Other	3377	20%	3243	23%	14164	49%	18687	54%
Short-term Suspensions	11820	71%	8779	62%	8401	29%	7383	21%
Long-term Suspensions	997	6%	763	5%	575	2%	403	1.%
Expulsion	389	2%	239	2%	140	0.5%	131	0.4%
In-school Suspension			589	4.%	3899	14%	3436	10%
Emergency Expulsion	–	–	–	–	51	0.2%	57	.02%
No Intervention	54	0.3%	460	3%	1512	5%	4653	13%
Alternative Education Setting	14	0.1%		–		–		–
Total	16,651	100%	14,073	100%	28,742	100%	34,750	100%

In the 2012-13 academic year, short-term suspensions (less than 10 days) made up over 70% of the interventions given across all behavior categories that year. By the 2015-16 academic year it accounted for about 20% of interventions. While rates of exclusionary discipline appear to be going down over time in terms of proportion, there's been a steady rise of the "Other" intervention category. "Other" accounted for 20% of interventions in 2012-13, and has since gone up to more than half of interventions by the 2015-16 academic year. All reported incidents increased significantly from over 16,000 in 2013, to well over 34,000 incidents in 2016.

One reason for the rise of "Other" can be explained by the fact that school districts and OSPI use entirely different sets of codes. When school districts use codes that don't match OSPI's, they often drop them in the "Other" category when they report data to the state.

Along with the changing proportion of interventions issued, there was an increase in the overall volume of recorded discipline. School districts confirmed they have elevated their efforts to document discipline. While short-term, or less than 10 days, suspension has dramatically dropped as a proportion of total behaviors, the number of students who receive this intervention has remained relatively stable. The increase in new discipline reporting is mostly accounted for in the "Other" category and to a lesser extent, increases in in-school suspensions and "no-intervention".

This brief uses data that includes all discipline cases within a given year across all grades, rather than just the 9th grade—which is the grade the Road Map Project uses for its early warning indicator for discipline. Findings show the region's disciplinary interventions have been shifting, but has the disproportionality of exclusionary interventions changed for students of color?

IN-DEPTH ANALYSES OF EXCLUSIONARY DISCIPLINE

To assess disproportionality of discipline for students of color in the Road Map Project region, a sample of student behaviors were selected and the resulting interventions were categorized by whether students received exclusionary discipline or some other intervention. These outcomes were then compared by each racial/ethnic group relative to their White peers, and controlled for by behavior type and other student characteristics such as, the number of incidents accumulated through the most recent year (2016), and gender.

EXCLUSIONARY DISCIPLINE

The following analyses show the association between exclusionary discipline and 1) the behavior type and 2) how each racial/ethnic group differs in the likelihood they will receive exclusionary discipline when compared to White students.

As shown in the next table, more serious offenses tend to have a higher likelihood of receiving exclusionary interventions. A somewhat alarming finding is that students who are coded as "Other" behavior category, are as likely to receive exclusionary discipline as more serious offenses.

Behaviors More Likely to be Associated with Exclusionary Discipline

Behavior in Order of Association

1. Other
2. Weapon
3. Drugs
4. Violence[a]
5. Alcohol/Tobacco
6. Bullying or Harassment
7. Destruction of Property
8. Failure to Cooperate
9. Minor Incidents

Order is based on odds ratio. These are relative to "Disruptive Conduct" (a more subjective and high-occurring behavior category).
a=Violence is a combination of Fighting with and without major injury.

Using the same model, but adding race/ethnicity and other characteristics while controlling for behavior types, results showed:

Compared to White students, Black and Pacific Islander students are more likely to Receive Exclusionary Discipline Regardless of Infraction.

This means the region's Black and Pacific Islander students are significantly more likely to receive exclusionary discipline than their White peers. See Appendix B for logistic regression table and results.

COMPARISON AMONG BEHAVIOR TYPES

Disaggregating behavior categories can give insight into a wider set of relationships among behavior type, interventions, and student characteristics. A model was built to take a closer look at exclusionary discipline while isolating individual behavior categories to answer the question: What is the influence of race on the probability of getting a certain intervention based on the type of infraction? An analysis used three of the most frequent behavior categories in the 2015-16 academic year: "Disruptive Conduct," "Failure to Cooperate", and "Fighting without Major Injury." Results for fighting without major injury are shown below.

Fighting without major injury probability of exclusionary discipline and 95% confidence interval: Black students are more likely to get suspended or expelled than White students for the same behavior.
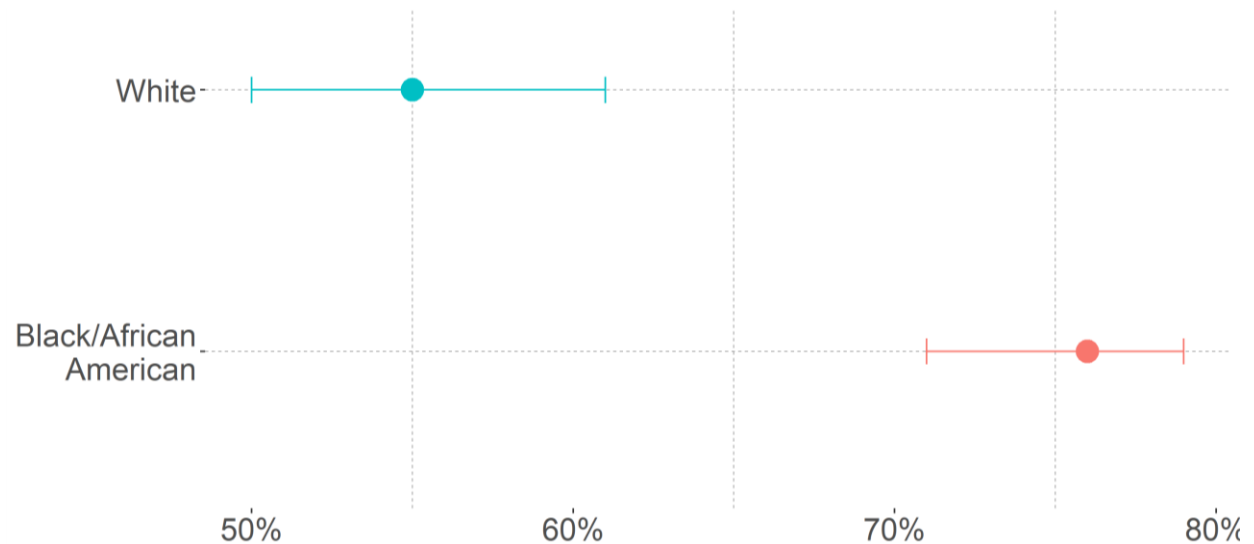
The figure shows how likely an exclusionary intervention is given based on the type of student behavior and while controlling for specific student characteristics. Using predicted probabilities, black students are over 20% more likely to receive exclusionary discipline than their white peers for fighting.

These procedures are used to highlight the extent of disproportionality in exclusionary discipline by isolating the sample of specific behavior codes and looking at differences by race/ethnicity within each student behavior type and the likelihood that a student receives exclusionary interventions (Skiba et al., 2011). By applying these statistical methods, we can highlight disproportionality by race when accounting for student characteristics and other controls.

Ideally, all students regardless of race or ethnicity should have the same probability of getting a certain type of disciplinary action for exhibiting the same type behavior. For example, because two out of 10 Black/African-American students will be suspended or expelled for "Disruptive Behavior," the same probability should apply to White students. However, that is not the case. The following are the results from a simulation on disciplinary outcomes for Black and White students. (See Appendix B for simulation strategy).

The Severity of Intervention Based on Race and Student Traits by Behavior Code

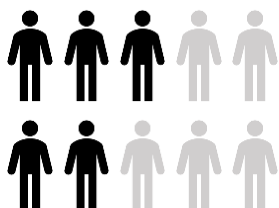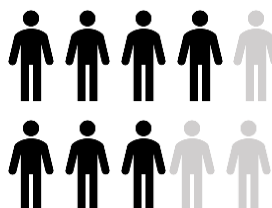### "DISRUPTIVE BEHAVIOR" CODE

White Students

Black Students

The analyses show that about only one of every 10 White students will be suspended or expelled compared with 2 of 10 Black students for the same infraction, "Disruptive Behavior."

"FIGHTING WITHOUT MAJOR INJURY" BEHAVIOR CODE

White Students

Black Students

And for "Fighting without Major Injury," seven out of 10 Black/African-American students will be suspended or expelled, compared to only about five out of 10 White students.

These results were simulated using a logistic regression model of the probability that a student would receive an exclusionary intervention given the behavior type and while controlling for student characteristics including race with White as the reference category.

We see strong evidence that students of color—and specifically Black students in—the Road Map Project region are more likely than their peers to receive more severe disciplinary interventions, even when controlling for different student characteristics. Even when students commit the same infraction, Black students are receiving harsher punishments. This tells us more information than gaps in disciplinary rates, alone.

LIMITATIONS

In this brief, we were able to control for certain student characteristics. If we had access to information on environmental factors, such as teacher characteristics or school climate, we could isolate the role of race with more confidence. Access to this type of data is needed in order to isolate these relationships more effectively.   Additionally, although this study uses rich student level incident data, intentional discrimination towards students of color is difficult to identify without specific details of the discipline incident, student behaviors, behavioral history, and how the behaviors were perceived by the school personnel.   What this study does identify is evidence for the potential of discriminatory practices in the way discipline interventions are applied for seemingly similar offenses (one could imagine that there is a range of severity for "fighting without major injury" incidents) that this data fails to capture.   For example, the fact that Black students are suspended or expelled more frequently than their white peers for the same behavior might reflect discrimination against black students and additionally reflect a systemic difference in the way fights involving black students from fights involving white students are recorded at individual school sites, that due to the lack of detail in this data, we are unable to ascertain.

RECOMMENDATIONS

We propose the following changes to how disciplinary actions are measured in order to put the focus on school systems. Informed by our analyses, these are core components for meaningful tracking of regional progress toward racial equity in student discipline.

DEVELOPING MEASURE OF DISCIPLINE

RACIAL EQUITY LENS	Identify factors including institutional racism that influences the reporting of disciplinary incidents, acknowledging that these are complex interactions that involve school staff's subjective assessments of student behavior.
POLICY	Stay abreast of discipline policies and examine data in the context of state and national legislation to track any unintended consequences in how policies are implemented.
ANY INTERVENTION	Examine rates of students receiving any punitive intervention codes, not just suspensions and expulsions.
DISAGGREGATION OF "OTHER"	Work with OSPI and school districts on a common set of detailed categories to help disaggregate "Other" for both behavior and intervention reporting.
STATISTICAL ANALYSES	There needs to be analyses that examine discipline severity, controlling for student and school traits to isolate the relationship between race and disciplinary action. Discipline rates alone by race can problematize students. Tracking rates of exclusionary discipline only does not provide schools with actionable information about the problem, barriers, and potential solutions.

RESOURCES

RESOURCE	URL
Strengthening Student Educational Outcomes Act (ESSB 5946)	http://apps.leg.wa.gov/documents/billdocs/2013-14/Pdf/Bills/Session%20Laws/Senate/5946-S.SL.pdf
Educational Opportunity Gap Oversight and Accountability Committee (EOGOAC)	http://www.k12.wa.us/Workgroups/EOGOAC.aspx
Opportunity Gap Bill (4SHB 1541)	http://lawfilesext.leg.wa.gov/biennium/2015-16/Pdf/Bills/Session%20Laws/House/1541-S4.SL.pdf
Washington Integrated Student Supports (WISS) Workgroup	http://k12.wa.us/Workgroups/ISS.aspx
Senate Bill 5155 (SB5155)	https://app.leg.wa.gov/dlr/tld/results.aspx?params=2017-18,5155

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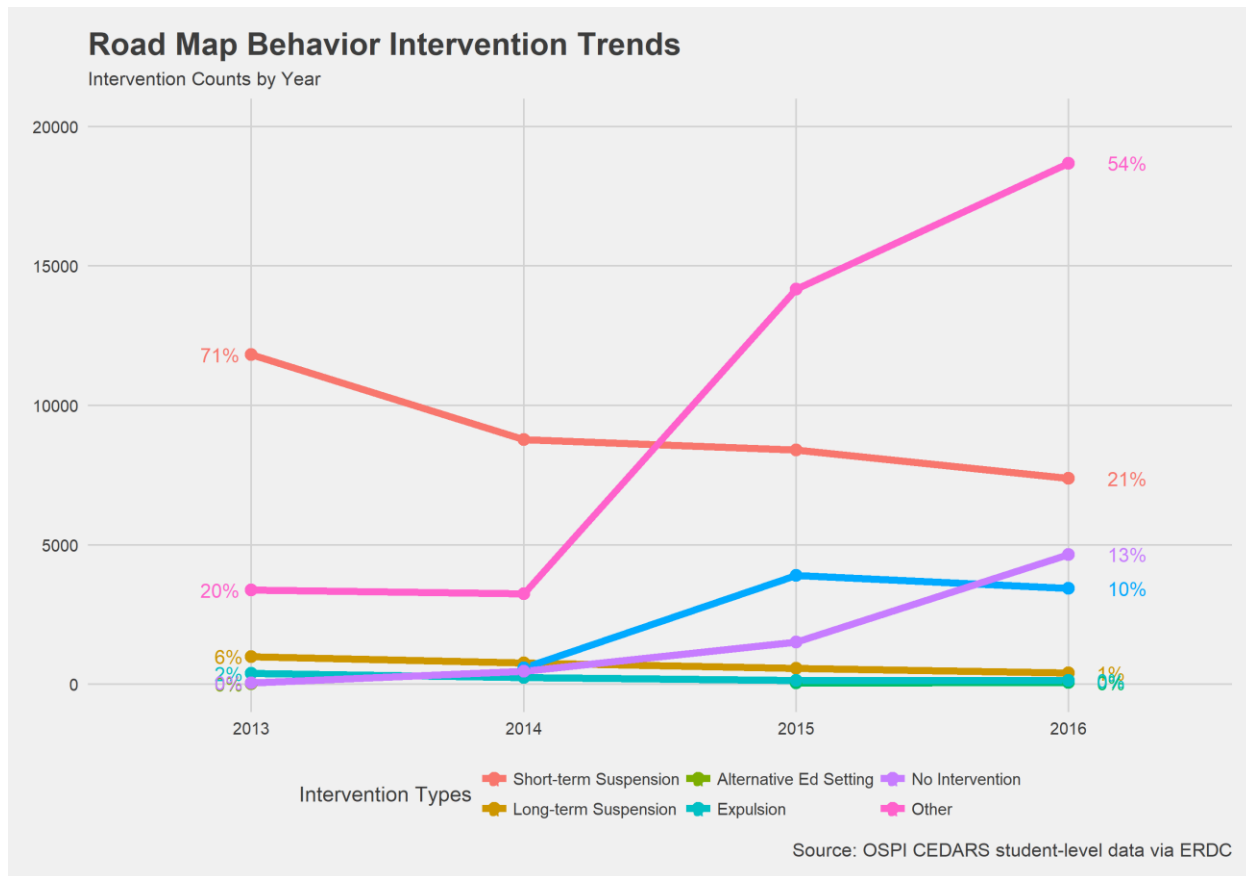
APPENDIX A

2015 Road Map Project Region K-12 Frequency of Behavior by Intervention

Behavior Type	OSPI Behavior Code	Intervention						
		Other Intervention %	Less than 10 days suspension %	No Intervention %	In-School Suspension %	10 or more days suspension %	Expulsion %	Emergency Expulsion %
Ambiguous	Disruptive Conduct	70.1	9.2	14.8	5.7	0.1	0.0	0.0
	Failure to Cooperate	72.0	11.1	10.9	5.5	0.5	0.1	
	Other behavior resulting in intervention		86.9	10.1		2.3	0.6	0.1
Drugs & Alcohol	Alcohol	1.0	70.6	11.3		16.0		1.0
	Illicit Drug (Other than marijuana)	4.1	49.5	9.3		34.0	3.1	
	Marijuana	2.1	51.2	15.6	0.1	28.6	1.7	0.8
	Tobacco	26.2	44.1	18.6	9.1	1.1	0.4	0.4
Violence, Possession, & Harassment	Fighting Without Major Injury	19.3	57.9	16.1	5.1	1.1	0.2	0.2
	Harassment, Intimidation or Bullying	33.5	29.4	17.3	16.8	1.4	1.2	0.5
	Possession of a Weapon	6.9	57.4	12.9	0.5	14.1	6.9	1.3
	Serious Bodily Injury	7.5	75.0	7.5	2.5	7.5		
	Violence With Major Injury	10.5	57.1	5.7	5.7	13.3	6.7	1.0
	Violence Without Major Injury	42.8	39.1	10.7	3.4	2.2	1.1	0.6

The "other" and the "less than 10-day suspension" categories account for majority of discipline occurrences in our region. This is problematic because "other" is a large and undefined category.

Proportional Use of Discipline Interventions in the Road Map Project Region by Academic Year

Road Map Behavior Intervention Trends

Intervention Counts by Year

APPENDIX B

DATA

This study uses data provided by the Office of Superintendent of Public Instruction (OSPI) via the Education Research and Data Center (ERDC) for the 2012-13 through 2015-16 school years. These data include records for students in grades K-12 in Road Map public schools.

These data contain information about incidents occurrences and include, the type of behavior recorded and the associated intervention given to the student. Student, grade, school and unique student identifier is used to add student race and free or reduced-price lunch information. Free or reduced-price lunch is not used in any of the models because there are two districts in our region for which we don't have that information.

METHODS

Discipline disparities in the likelihood that a student will receive an exclusionary intervention were assessed using a series of regression models. Because a substantial share of the variation in student discipline is accounted for across different schools (Anderson & Ritter, 2017; Skiba et al., 2014); both models employed in these analyses account for variation due to school effects. Formally, the model for the first analyses takes on the following form:

$$log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = b_0 + B_1BCode_i + B_2Race_{ij} + B_3Gender_{ij} + B_4Multiple_{ij} + u_j$$

The first model examines the log-likelihood that a student will receive an exclusionary intervention (expulsion, long-term and short-term suspension combined) compared to alternative interventions while controlling for, 1) the type of behavior code, 2) the race/ethnicity of the student receiving the discipline, 3) gender and 4) multiple incidents by the student. The term u_j is the effect of being in school j on the log-odds that y=1.

Additionally, a second set of models were used to determine the impact of race on the log-likelihood of receiving exclusionary discipline conditional on a specific behavior type.

$$log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = b_0 + B_1Race_{ij} + B_2Gender_{ij} + B_3Multiple_{ij} + u_j$$

This model was used separately on a subset sample of three behavior categories, fighting without major injury, failure to cooperate, and disruptive conduct. This model was then used to simulate conditional probabilities on the two values of the Black race indicator, where 1-represented black students in that population and 0-represented the reference group, which in this case was White students. All other controls were held constant (at their averages).

The below tables use Odds Ratios (OR) to measure degree of association between the discipline received and 1) the type of behavior code, then 2) the race/ethnicity of the student receiving the discipline. Values greater than 1 indicate stronger association and values less than 1 indicate less association.

The Unique Influence of Behavior Code and Race, Gender and Frequency of Occurrence on Exclusionary Discipline

Variable	Odds Ratio (OR)		se
Behavior Code			
Other	70.94	***	0.14
Minor Incident	0.01	***	0.50
Alcohol/Tobacco	8.60	***	0.19
Bullying/Harassment	5.57	***	0.11
Drugs	33.51	***	0.17
Non-compliance	0.74	*	0.10
Property	2.79	***	.015
Violence	12.38	***	0.09
Weapon	38.60	***	0.21
Race and Ethnicity			
American Indian/Native American	1.34		0.29
Asian	0.90		0.13
Black/African American	1.55	***	0.08
Hispanic/Latino	1.02		0.09
Native Hawaiian/Other Pacific Islander	1.51	*	0.16
Two or More Races	1.20		0.04
Gender (reference = Male)	1.00		0.06
Frequency of Incidents	5.50	***	0.06

BIC = 8396.6

*Source. CCER Education Data Warehouse: OSPI CEDARS student-level data. Notes. The reference category for Exclusionary Discipline is everything but out-of-school suspensions or expulsions. The reference category for race is White. The reference category for Behavior is disruptive behavior. Statistical Significance Codes: *** p < 001; ** p < .01; * p < .05. BIC = Bayesian Information Criterion*

Intervention Based on Student Characteristics by Behavior Code

	Odds Ratios by Behavior Code (standard errors)		
	Disruptive Conduct	Failure to Cooperate	Fighting
Race and Ethnicity			
American Indian/Native American	1.4 (0.59)	1.6 (1.82)	1 (0.87)
Asian	0.80 (0.33)	0.43 (0.50)	0.8 (0.39)
Black/African American	1.7 (0.18) **	1.5 (0.22)	2.0 (0.23) ***
Hispanic/Latino	1.0 (0.19)	0.9 (0.24)	1.3 (0.25)
Native Hawaiian/Other Pacific Islander	1.6 (0.35)	1.6 (0.42)	0.8 (0.42)
Two or More Races	0.91 (0.24)	1.1 (0.28)	1.3 (0.29)
Gender	0.80 (0.14)	0.9 (0.17)	.7 (0.19)
Frequency of Incidents	5.8 (0.15) ***	5.6 (0.19) ***	4.4 (0.18) ***
BIC	2105	1193	1593

SIMULATION RESULTS

Probability of Exclusionary Discipline for Fighting without Major Injury			
Group	Probability	Lower Confidence Interval	Upper Confidence Interval
Black African American	0.76	0.72	0.79
White	0.55	0.5	0.61

Probability of Exclusionary Discipline for Disruptive Conduct			
Group	Probability	Lower Confidence Interval	Upper Confidence Interval
Black African American	0.18	0.15	0.21
White	0.10	0.08	0.15

WAS THIS BRIEF HELPFUL?
Let us know how you've used data in
this brief at info@ccedresults.org