

A person is walking away from the camera down a long aisle in a library. The aisle is lined with tall bookshelves filled with books of various colors. The lighting is soft and even, creating a quiet atmosphere. The person is in the center of the frame, slightly out of focus, emphasizing the vastness of the library.

Analyzing Student-Level Disciplinary Data: Implications for Districts and Researchers



May 31, 2017

Agenda

Welcome and introductions

Part 1: What can we learn by examining disciplinary data?

Part 2: Methods for completing data checks

Part 3: Designing and conducting analyses

State-level perspective

Facilitated Q&A

Closing remarks

Today's goals

- Build understanding of how student-level disciplinary data analysis relates to issues of equity and student outcomes
- Explore how researchers design and conduct analyses, including calculations to address core questions
- Unearth the challenges and opportunities for collecting, analyzing, and using student-level disciplinary data



Meet today's presenters



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PART 1.

What can we learn by examining disciplinary data?



How discipline relates to student outcomes

- Exclusionary discipline is related to increased risk for
 - Lower achievement
 - Dropping out
 - Becoming involved in the juvenile justice system
 - Being incarcerated as an adult¹
- A meta-analysis of over 30 studies reported suspensions were significantly associated with lower achievement and higher likelihood of dropping out²

1. Balfanz, R., Byrnes, V., & Fox, J. (2014).

2. Fabelo, T., Thompson, M., Plotkin, M., Carmichael, D., Marchbanks, M., & Booth, E. (2011).



How discipline relates to issues of equity

- Disparities in the use of discipline are well documented
- Certain subgroups of students are at disproportionate risk for suspension:
 - Racial and ethnic minorities
 - Students with disabilities³



How discipline relates to issues of equity

For the 2013/14 school year:

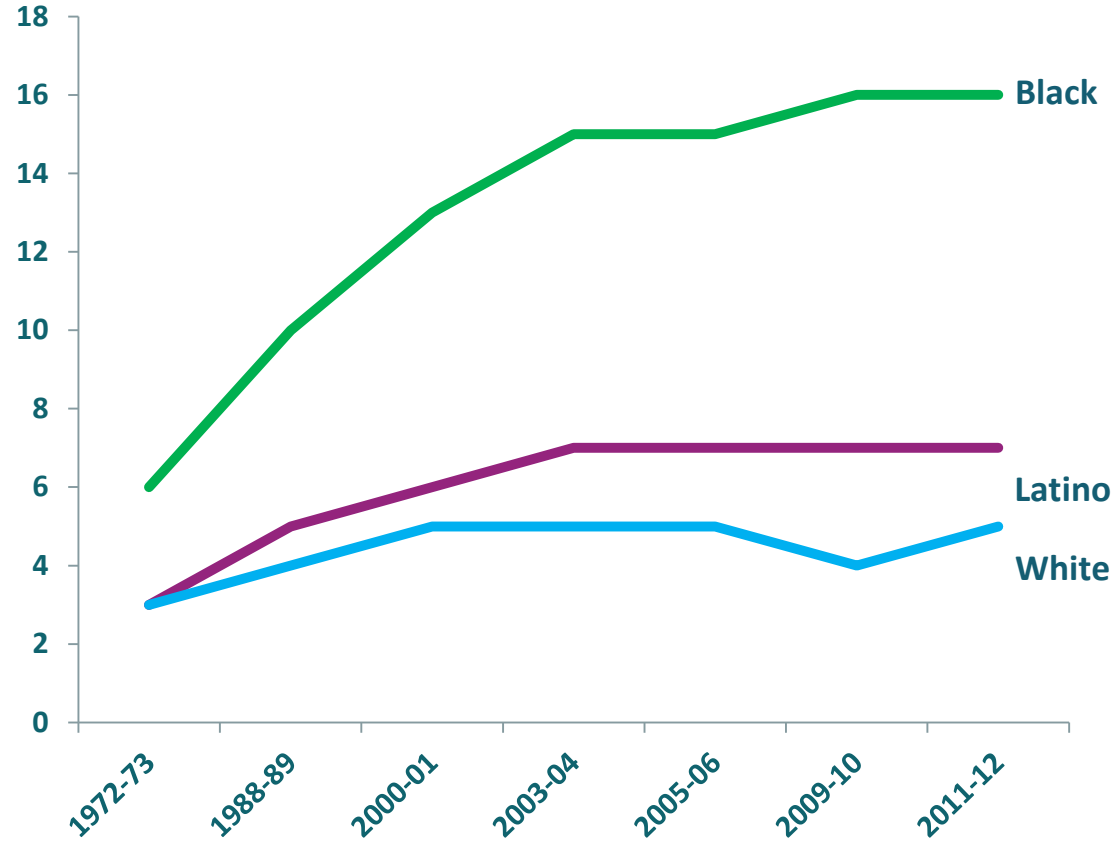
- Black preschool children are **3.6** times more likely to receive one or more out-of-school suspensions as white children
- Black k–12 students are **3.8** times more likely to receive one or more out-of-school suspensions as white students
- 6% of all k–12 students were suspended, yet the percentage is 18% for black boys and 10% for black girls⁴

4. US DOE Office for Civil Rights. (2016).



How discipline relates to issues of equity

K–12 suspension rates show increasing suspensions and increasing disparity⁵



5. Losen, D., Hodson, C., Keith, M. A., Morrison, K., & Belway, S. (2015, February).

Call to action

- Discipline policy and practice has become a national priority for federal agencies⁶
- Efforts in major urban districts to reduce out-of-school suspensions

6. US Dept. of Justice Civil Rights Division and US DOE Office for Civil Rights. (2014).



U.S. Department of Justice
Civil Rights Division



U.S. Department of Education
Office for Civil Rights

January 8, 2014

Dear Colleague:

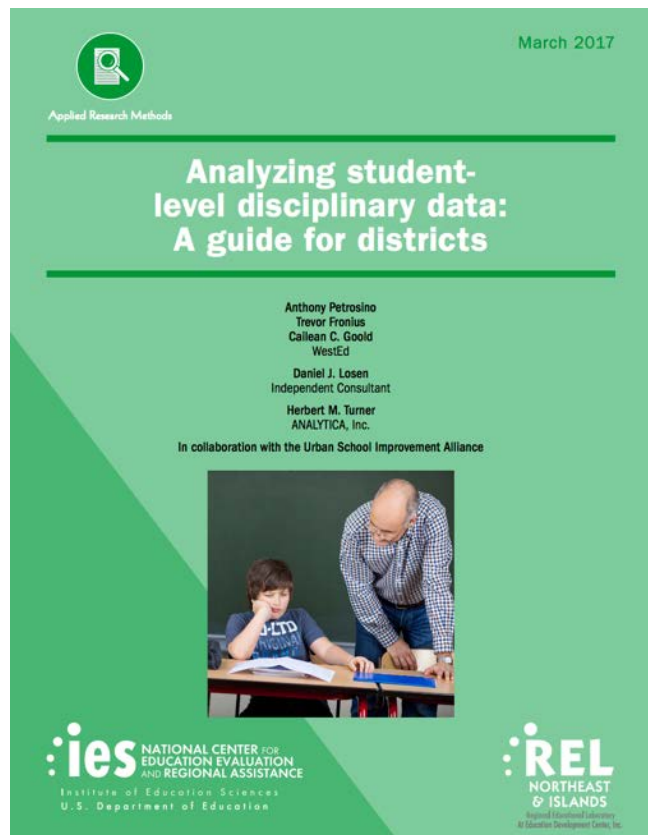
The U.S. Department of Education and the U.S. Department of Justice (Departments) are issuing this guidance to assist public elementary and secondary schools in meeting their obligations under Federal law to administer student discipline without discriminating on the basis of race, color, or national origin. The Departments recognize the commitment and effort of educators across the United States to provide their students with an excellent education. The Departments believe that guidance on how to identify, avoid, and remedy discriminatory discipline will assist schools in providing all students with equal educational opportunities.¹

The Departments strongly support schools in their efforts to create and maintain safe and orderly educational environments that allow our nation's students to learn and thrive. Many schools have adopted comprehensive, appropriate, and effective programs demonstrated to: (1) reduce disruption and misconduct; (2) support and reinforce positive behavior and character development; and (3) help students succeed. Successful programs may incorporate a wide range of strategies to reduce misbehavior and maintain a safe learning environment, including conflict resolution, restorative practices, counseling, and structured systems of positive interventions. The Departments recognize that schools may use disciplinary measures as part of a program to promote safe and orderly educational environments.

¹ The Departments have determined that this Dear Colleague Letter is a "significant guidance document" under the Office of Management and Budget's Final Bulletin for Agency Good Guidance Practices, 72 Fed. Reg. 3432 (Jan. 25, 2007), available at http://www.whitehouse.gov/sites/default/files/omb/fedreg/2007/012507_good_guidance.pdf. This and other policy guidance is issued to provide recipients with information to assist them in meeting their obligations, and to provide members of the public with information about their rights, under the civil rights laws and implementing regulations that we enforce. The Departments' legal authority is based on those laws. This guidance does not add requirements to applicable law, but provides information and examples to inform recipients about how the Departments evaluate whether covered entities are complying with their legal obligations. If you are interested in commenting on this guidance, please send an e-mail with your comments to OCR@ed.gov, or write to the following address: Office for Civil Rights, U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202.

Addressing three core questions:

1. What disciplinary actions do students receive and for **what offenses**?
2. Are exclusionary **disciplinary** actions used **more frequently** for **some subgroups** of students than others?
3. Do student **academic outcomes** differ by the type of disciplinary actions students receive?



PART 2.

Methods for completing data checks



Exclusionary discipline

A disciplinary action that removes a student from his or her normal learning setting. For example, out-of-school suspension.

Inclusionary discipline

A disciplinary action that results in no loss of instructional time. For example, after school detention.



How districts categorize student offenses

Using subjective descriptors, such as “disrespect” and “defiance” can contribute to disproportionality.⁷

District	Disrespect	Disruptive behavior	Inappropriate behavior	Insubordination	Disorderly conduct	Defiance	Causing disturbance
1	●	●	●				
2	●	●		●			
3	●					●	●
4	●	●	●				
5	●	●	●			●	
6	●	●		●	●		

7. Losen & Orfeld, 2002; Morgan et al., 2014; Staats, 2014

Components necessary to conduct analyses

- Student-level data file
 - File with a record for each student with data on demographics, student offenses, disciplinary actions, and academic performance
- Simple “flat” file
 - Binary data file where each row represents a single student observation and each column represents a single student variable.
- A statistical software package (for example: Excel, Stata, SAS, or R)



Data checks

- Understanding data
 - Define all data elements
 - Establish rules to make the analysis transparent
- Determine whether data are missing/inaccurate
 - For example: not entered into the system or recorded incorrectly
- Define and refine the unit of analysis
 - Avoid disclosure of personally identifiable data



PART 3.

Designing and conducting analyses



Research question 1

What disciplinary actions do students receive and for what offenses?



Research question 1

What disciplinary actions do students receive and for what offenses?

To answer this question you may **calculate the number/percentage** of:

- Students receiving any disciplinary action
- Students receiving exclusionary disciplinary action versus inclusionary disciplinary action
- Students receiving out-of-school vs. in-school suspensions
- Disciplinary actions students receive by types of offenses



Students receiving any disciplinary action

At least one disciplinary action	Total enrolled students (<i>n</i> = 1,000)	
	Number	Percent
Yes	381	38.1
No	619	61.9

Source: Authors' analysis based on fictitious data.



Exclusionary versus inclusionary action

Students who received any disciplinary action (<i>n</i> = 381)		
Type of disciplinary action	Number	Percent
Exclusionary	138	36.2
Inclusionary	375	98.4

Note: Students are unduplicated within type of disciplinary action.

Source: Authors' analysis based on fictitious data.



Out-of-school versus in-school suspensions

Type of disciplinary action	Total enrolled students (<i>n</i> = 1,000)	
	Number	Percent
Exclusionary		
Out-of-school suspension		
One day	109	10.9
More than one day	29	2.9
Other exclusionary discipline	0	0.0
Inclusionary		
In-school suspension	204	20.4
Other inclusionary discipline	171	17.1

Source: Authors' analysis based on fictitious data.

Disciplinary actions for major offense types

Offense	Total disciplinary actions (n = 957)		Exclusionary disciplinary actions (n = 536)		Inclusionary disciplinary actions (n = 410)	
	Number	Rate per 100 students	Number	Rate per 100 students	Number	Rate per 100 students
Disruptive behavior	221	22.1	97	9.7	124	12.4
Drugs	103	10.3	63	6.3	40	4.0
Fighting	156	15.6	110	11.0	46	4.6
Harassment	116	11.6	56	5.6	60	6.0
Theft	78	7.8	70	7.0	a	a
Truancy	189	18.9	87	8.7	102	10.2
Weapon	41	4.1	38	3.8	a	a
Other	53	5.3	15	1.5	38	3.8

Note: Total student enrollment is 1,000 students.

a. Suppressed because there are fewer than 10 cases.

Source: Authors' analysis based on fictitious data.

Research question 2

Does the district use exclusionary disciplinary actions more frequently for some subgroups of students than for others?



Research question 2

Does the district use exclusionary disciplinary actions more frequently for some subgroups of students than for others?

To answer this question you may **calculate**:

- Risk indices
- Risk rate for different disciplinary actions by subgroup
- Frequency of different disciplinary actions and offense types by subgroup



Calculating risk indices

For each subgroup and total enrollment:

$$\frac{\textit{students receiving disciplinary action}}{\textit{students enrolled}} \times 100 = \textit{risk rate (\%)}$$

Category	Black	White	Hispanic	All
Total enrollment	200	400	400	1,000
Number of students receiving out-of-school suspensions at least once	50	50	38	138
Risk formula	50/200	50/400	38/400	138/1,000
Risk rate (percent)	25	12.5	9.5	13.8

Source: Authors' analysis based on fictitious data.

Calculating risk differences

Risk differences (or gaps) can be used to identify potential disproportionality

Category	Black	White
Total enrollment	200	400
Number of students receiving out-of-school suspensions at least once	50	50
Risk formula	50/200	50/400
Risk rate (percent)	25	12.5
Risk difference (gap) (percentage points)	25 – 12.5 = 12.5	

Source: Authors' analysis based on fictitious data.

Calculating relative risk ratios

Allows us to compare the rate at which one student subgroup receives a disciplinary action to the rate another does

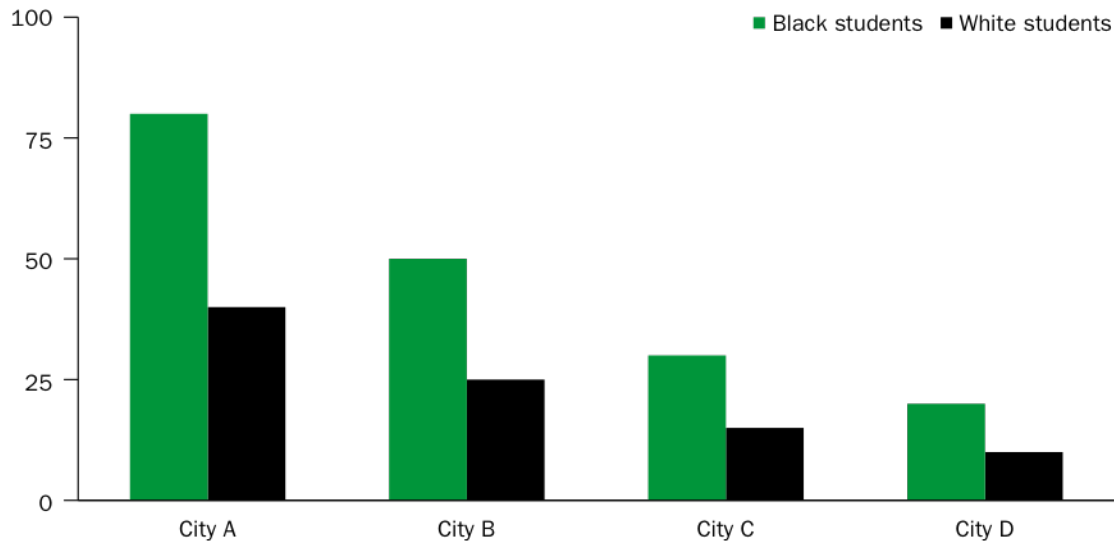
Category	Black	White
Total enrollment	200	400
Number of students receiving out-of-school suspensions at least once	50	50
Risk formula	$50/200$	$50/400$
Risk rate (percent)	25	12.5
Risk ratio equation (percent)	Risk for Black students / risk for White students $= 25 / 12.5$	
Risk ratio	2:1	

Source: Authors' analysis based on fictitious data.

Limitations to risk ratio

- High ratios are possible even when underlying risk is low
- Does not indicate whether an action is used often or rarely

Risk rate for out-of-school suspension



Source: Authors' analysis based on fictitious data.

Discipline rate per 100 students

$$\frac{\text{total \# of disciplinary actions a student subgroup received}}{\text{total enrollment of subgroup}} \times 100$$

Category	Black	White
Total enrollment	200	400
Number of out-of-school suspensions	50	50
Rate per 100 students formula	$50/200 \times 100$	$50/400 \times 100$
Rate per 100 students	25	12.5

Source: Authors' analysis based on fictitious data.

Composition index

A **composition index** compares the % of a subgroup of students receiving a particular disciplinary action to their % of total student enrollment.

- For example: If White students make up 40% population, but are 60% of all students suspended, their composition index is 1.5. ($\frac{60}{40} = 1.5$)

Limitations:

- Does not indicate whether suspensions are frequent or rare
- Mathematical limitations



The challenge of small cell sizes

Small cell problem occurs when only a few cases (students or disciplinary actions) appear in one cell of a table.

- For example: If only two Black students are enrolled and both are suspended, the fact that 100% of Black students were suspended may lead to an inaccurate conclusion about disproportionality.

Strategies to address this:

- Consider data over multiple years
- Dig into your data for context
- Do not disclose personally identifiable info (FERPA)



Using risk rate to explore disproportionality

Calculating the risk rate for different disciplinary actions by subgroup

Category	Total	White	Black	Hispanic
Number of students enrolled	1,000	400	200	400
Percent of students enrolled	na	40.0	20.0	40.0
Percent of disciplinary actions received ^a	na	24.3	36.1	39.6
Number of students receiving out-of-school suspensions at least once	138	31	54	53
Rate of out-of-school suspensions per 100 students	13.8	7.8	27.0	15.6
Number of students receiving in-school suspensions at least once	204	54	71	79
Rate of in-school suspensions per 100 students	20.4	13.5	35.5	19.8

na is not applicable.

a. Unduplicated within type of disciplinary action, within subgroups.

Source: Authors' analysis based on fictitious data.



Using frequency to explore disproportionality

Frequency of disciplinary actions and offense types by subgroup

Race/ethnicity	Attacks, threats, or fighting		Disruptive behavior		Other	
	Out-of- school suspension	In-school suspension	Out-of- school suspension	In-school suspension	Out-of- school suspension	In-school suspension
Total	83.0	17.0	64.5	35.5	59.9	40.1
White	80.5	19.5	62.4	37.6	65.8	34.2
Black	86.2	13.8	63.8	36.2	58.5	41.5
Hispanic	84.7	15.4	68.9	31.1	55.3	44.7
Asian/Pacific Islander	87.9	12.1	68.4	31.6	52.2	47.8
American Indian/Alaskan Native	88.1	11.9	70.6	29.4	52.3	47.7
Multiracial	91.1	8.9	67.6	32.4	54.6	45.4

Source: Authors' analysis based on fictitious data.



Research question 3

Do student academic outcomes differ by the type of disciplinary actions that students receive?



Academic outcomes and disciplinary actions

Disciplinary action	Advanced to next grade level	
	No	Yes
At least one in-school suspension (<i>n</i> = 375)		
Number	31	344
Percent	8.3	91.7
At least one other inclusionary discipline (<i>n</i> = 315)		
Number	34	281
Percent	10.8	89.2
At least one out-of-school suspension (<i>n</i> = 138)		
Number	27	111
Percent	19.6	80.4
At least one other exclusionary discipline (<i>n</i> = 12)		
Number	a	a
Percent	a	a
No disciplinary action (<i>n</i> = 619)		
Number	38	581
Percent	6.1	93.9

Note: Unduplicated count of students within type of disciplinary action.

a. Suppressed because there are fewer than 10 cases.

Source: Authors' analysis based on fictitious data.

PERSPECTIVE

Implications in the state of Vermont



Questions



Please type any questions into the chat.



Thank you!

To contact today's presenters:

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Images

Slide 15 (Graph): Losen, D., Hodson, C., Keith, M. A., Morrison, K., & Belway, S. (2015, February). Are We Closing the School Discipline Gap? *The Center for Civil Rights Remedies* (p. 5).

Slide 16 (Dear Colleague Letter): U.S. Department of Justice, Civil Rights Division, and U.S. Department of Education, Office for Civil Rights. (2014). *Dear colleague letter on the nondiscriminatory administration of school discipline*. Washington DC: Author. Retrieved July 15, 2015, from: <https://www2.ed.gov/about/offices/list/ocr/letters/colleague-201401-title-vi.html>

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