Towards a Problem-Solving Approach to Addressing Racial Disparities in School Discipline Under Anti-Discrimination Law

ERIK J. GIRVAN, JD, PhD*

I. INTRODUCTION ........................................................................................................ 996
II. AN OVERVIEW OF RACIAL DISPARITIES IN EXCLUSIONARY SCHOOL DISCIPLINE ........................................................................................................ 1000
   A. Aggregate Disparities ....................................................................................... 1000
   B. Short- & Long-Term Impacts of Exclusionary Discipline......................... 1003
   C. Inadequacy of Anti-Discrimination Law ................................................... 1013
III. THE PROBLEM-SOLVING APPROACH TO RACIAL DISPARITIES IN DISCIPLINE UNDER THE IDEA ................................................................. 1019
   A. Problem-Solving Approaches ................................................................. 1020
      1. The IDEA’s Problem-Solving Approach to Discipline Disparities ................. 1027
   B. Challenges with Problem-Identification................................................ 1031
      1. Risk-Based Measures of Discipline Disparities..................................... 1033
      2. Incident-Based Measures ...................................................................... 1040
      3. Composition Measures......................................................................... 1041

* Associate Professor, University of Oregon School of Law. The development of this research was supported by the Office of Special Education Programs, U.S. Department of Education (#R324A170034). The opinions expressed are those of the author and do not represent views of the Office or U.S. Department of Education. Special thanks to Keith Smolkowski for his feedback, and to Carson Reaves Gilbert, Thomas H. Greer, and other members of The University of Memphis Law Review for their thoughtful suggestions, diligent editorial work, and efforts to organize a symposium on the critical topic of reducing educational inequity. Any errors and omissions are my own.

995
IV. THE CURRENT APPROACH TO ASSESSING RACIAL DISPARITIES
   UNDER THE IDEA .......................................................... 1043
   A. Adoption of a Standard Methodology .......................... 1044
   B. Critiques of the Standard Methodology ....................... 1047
         a. Ricci v. DeStefano .............................................. 1050
         b. Parents Involved in Community Schools v. Seattle School Dist. No. 1 .................................. 1053
         c. Heyne v. Metropolitan Nashville Public Schools ....
            ........................................................................ 1058
         d. Application of the Legal Limitations to Problem-Solving Approaches .................................. 1060
      2. Does the Standard Methodology Identify Leas with the Most Problematic Racial Discipline Disparities? ... 1062
         a. Discipline Risk Ratios are Unstable Over Time ....
            ........................................................................ 1064
         b. Discipline Risk Ratios Tend Not to Identify Leas in Which the Impact of Racial Disproportionality Is Highest .................................. 1069

V. IMPROVING PROBLEM IDENTIFICATION TO ADVANCE EQUAL EDUCATIONAL OPPORTUNITY .......................... 1073
   A. Additional Measures .................................................. 1074
      1. Raw Differential Representation ............................... 1074
      2. Total Discipline Risk .............................................. 1076
   B. Discipline Disproportionality Score Card ..................... 1077

V. CONCLUSION ................................................................. 1081

I. INTRODUCTION

   For countries like the United States, in which power theoretically rests with the people, it is critical that all citizens be educated so that, whatever their background, they have an equal opportunity to become responsible, productive, successful, and
engaged members of society.1 If we take this goal seriously, our legal system should require districts and schools to actively identify threats to equal educational opportunities, and it should facilitate and support efforts by schools and districts that attempt to reduce or eliminate those threats.

Racial disparities in exclusionary school discipline pose a serious threat to equal educational opportunity. Across the United States, black students are disciplined at much higher rates than students from other racial and ethnic groups.2 A substantial body of research indicates that these disparities contribute to black students’ increased risk for a variety of negative short-term and long-term educational and life outcomes, including poor academic engagement and performance.3

1. See generally John Dewey, Democracy and Education: An Introduction to the Philosophy of Education (1916) (describing the essential functions of formal education in complex societies generally and democracies in particular where citizens with diverse interests are expected to exercise, not merely follow, authority); Amy Gutmann, Democratic Education (1987) (arguing for the importance of critical thinking and deliberation to a society in which sovereignty is shared by citizens); Stephen Macedo, Diversity and Distrust: Civic Education in a Multicultural Democracy (2000) (arguing for the role of public education in instilling common democratic values); W.E.B. Du Bois, The Souls of Black Folk (1903) (asserting the importance of civil equality and access to formal education to African American progress).


dropping out of school,\textsuperscript{4} under- or un-employment,\textsuperscript{5} and involvement with the criminal justice system.\textsuperscript{6} Further, while suspensions and expulsion from school may occasionally be necessary in order to preserve a safe, structured learning environment, research suggests that exclusionary discipline is often used unnecessarily and excessively.\textsuperscript{7} Schools can increase equity in educational opportunity by adopting policies that target the factors that contribute to students’ violations of their schools’ behavioral expectations and that address the overuse of exclusionary responses by teachers and administrators.

Federal anti-discrimination law provides some protection against racial disparities in school discipline. The primary sources of federal anti-discrimination law, however, are designed to address only the most direct and overt causes of such disparities.\textsuperscript{8} In doing so, they are too narrowly focused to require schools, districts, and states to consider the broad range of factors that may contribute to racial disparities in school discipline. And, as negatively framed prohibitions, anti-discrimination law does not facilitate, and may actually inhibit, efforts to develop and implement changes that are

\textsuperscript{4} See Lamont, supra note 3, at e1001–02 (2013); TONY FABELO ET AL., BREAKING SCHOOLS’ RULES: A STATEWIDE STUDY OF HOW SCHOOL DISCIPLINE RELATES TO STUDENTS’ SUCCESS AND JUVENILE JUSTICE INVOLVEMENT, 54–60 (2011).

\textsuperscript{5} See Lamont, supra note 3, at e1001–02 (2013).


\textsuperscript{7} See Am. Psychological Assoc., supra note 6, at 853–57; Lamont, supra note 3, at e1001–02.

likely necessary to actually reduce or eliminate the disparities where they are found.9

Anti-discrimination law could more effectively address complex racial issues like disparities in exclusionary school discipline if it created an affirmative duty to engage in a problem-solving approach focused on goals related to achieving equity. The question is, would it be feasible to do so? I argue that it is. To support the argument, I draw on the example and experience of the Individuals with Disabilities Education Act (IDEA). Since 2004, the IDEA has required states to use a problem-solving approach to identify and address “significant disproportionality” in discipline outcomes of students with disabilities based on their race.10 The basic framework of the IDEA can serve as an example for implementation of a broader problem-solving approach for anti-discrimination law. Experience implementing the framework, however, has also highlighted practical, legal, and methodological issues inherent in the assessment of racial disparities and evaluation of interventions to address them. Any effort to move anti-discrimination to law towards a similar framework must resolve these issues. Accordingly, building on research on measures of and approaches for resolving racial disparities in discipline, I propose an alternative approach. Using national school discipline data collected by the Office of Civil Rights in the 2013–14 and 2015–16 school years, I also show how this approach could operate in practice to make anti-discrimination law more effective at addressing these issues.

In Part I, I briefly review research on the extent, impacts, and causes of racial disparities in school discipline and the limitations of anti-discrimination law that might otherwise help address it. Part II describes the general structure of a problem-solving framework, how the IDEA applies such a framework to address racial discipline disparities, and the approaches states adopted to assessing racial disparities under the IDEA, including some of the problems with the approaches. Building on Part II, Part III discusses how the sheer variety of and specific methods incorporated into the state approaches to assessing racial disparities undermined the effectiveness of IDEA’s problem-solving approach, the subsequent adoption by the United

10. See infra Section II.B.
States Department of Education (DOE) of a standard method for identifying where interventions were needed, and some primary legal and methodological issues raised by the DOE’s standard methodology. Finally, informed by the IDEA’s experience, Part V presents an alternative method for identifying significant disproportionality and evaluating the efficacy of interventions, a method that also addresses the legal and methodological issues faced by the IDEA. In doing so, I demonstrate how anti-discrimination law might be made more effective at supporting equal educational opportunity by proscribing a problem-solving approach for addressing complex and persistent racial issues like disparities in school discipline.

II. AN OVERVIEW OF RACIAL DISPARITIES IN EXCLUSIONARY SCHOOL DISCIPLINE

A. Aggregate Disparities

Black students experience school discipline at much higher rates than white students.11 The most comprehensive records of racial disparities in exclusionary discipline (e.g., suspensions and expulsions) come from the Office of Civil Rights (OCR) in the United States Department of Education (DOE).12 In order to fulfill its obligations to enforce various federal anti-discrimination laws,13 the OCR surveys primary and secondary schools every other year about, among other topics related to educational outcomes, the rates at which students from

---

11. This section provides a summary of more comprehensive reviews and discussions. See, e.g., Erik J. Girvan, The Law and Social Psychology of Racial Disparities in School Discipline, in ADVANCES IN PSYCHOLOGY AND LAW Vol. 4 235, 237 (Brian Bornstein & Monica Miller eds., 2019) [hereinafter Girvan PSYCHOLOGY AND LAW]; see also NOWICKI, supra note 2, at 12–19 (“Across each disciplinary action, Black students, boys, and students with disabilities experienced disproportionate levels of discipline.”) (emphasis added).


various groups are disciplined. The results of recent surveys, compiled in the publicly available Civil Rights Data Collection (CRDC), are comprehensive, with response rates over the last decade approaching 100% of all public schools in the United States. The data shows that, in the 2013–14 school year, about 16% of students enrolled in public schools were black. Black students, however, received approximately 32% of all in-school suspensions, 39% of all out-of-school suspensions, and 30% of all expulsions. Ultimately, just 4% of white students were suspended at least once compared to approximately 14% of black students.

While racial equality is often presumed to have improved in the United States from the 1960s and 1970s to today, racial disproportionality in exclusionary school discipline has actually gotten substantially worse over that period of time. In the 1970s, when comprehensive data collection began, black students were suspended or expelled at approximately twice the rate of white students. By the

---


15. See First Look, supra note 14, at 1 (finding that 99.2% of all school districts and 99.5% of all public schools were examined in the data set); School Climate and Safety, supra note 2, at 1 (reporting similar numbers in responses).


17. See id.; see also Nowicki, supra note 2, at 12–14 (finding in the 2013–2014 school year, “Black students represented 15.5 percent of all public school students and accounted for 39 percent of students suspended from school, an overrepresentation of about 23 percentage points”).

18. See Nowicki, supra note 2, at 71.

2000s and 2010s, the disparity had increased to three-to-four times the rate for black students as compared to White students.\textsuperscript{20} The increase is not attributable to just particular regions of the country. Analysis of data collected by the OCR for 20 large metropolitan areas during the 2009–10 school year shows that schools in Atlanta, Georgia; Houston, Texas; St. Paul, Minnesota; and Chicago, Illinois, all suspended black students at six or more times the rate as white students.\textsuperscript{21} Indeed, “of the 2,204 high schools in the CRDC data from the 2009–10 school year with at least 10 black and 10 white students, approximately 94% suspended Black students at higher rates than White students.”\textsuperscript{22}

Aggregate discipline rates paint only part of the picture. Exclusionary discipline tends to be particularly concentrated among students who are identified as needing special education and related services.\textsuperscript{23} In the 2015–16 school year, approximately 12% of all public-school students were identified as having disabilities under the


\textsuperscript{22} Girvan PSYCHOLOGY AND LAW, supra note 11, at 238.

IDEA. These children and youth experienced 26% of all out-of-school suspensions and 24% of all expulsions in that school year. In terms of the proportions of students in each category, in the 2011–12 school year, 13% of students with identified disabilities received at least one out-of-school suspension compared to just 6% of students without disabilities under the IDEA. Racial disproportionality in discipline is no better among these students than in the overall population. Approximately 9% of white students with disabilities received at least one out-of-school suspension in the 2011–12 school year compared to 23% of black students with disabilities. Both black and white students with identified disabilities thus tend to experience exclusionary discipline at approximately two or more times the rates of peers in their racial group without disabilities.

B. Short- & Long-Term Impacts of Exclusionary Discipline

Equal educational opportunity is essential for participatory systems of government to meaningfully function. The ideal of equal educational opportunity, however, has practical limits. In order to fulfil their educational mission, schools must create and preserve safe and orderly environments that are conducive to learning. Removing particular students from the classroom through exclusionary discipline policies and practices may be necessary and, in theory, could improve overall educational outcomes. Where the need to preserve safe, orderly learning environments is used to justify unnecessarily and

24. See SCHOOL CLIMATE AND SAFETY, supra note 2, at 14.
25. Id. at 14, 16.
26. See DATA SNAPSHOT: SCHOOL DISCIPLINE, supra note 2, at 3.
27. Id. at 4.
30. See Goss v. Lopez, 419 U.S. 565, 582–83 (1975) (“[F]ormalizing the suspension process and escalating its formality and adversary nature may not only make it too costly as a regular disciplinary tool but also destroy its effectiveness as part of the teaching process.”).
excessively punitive discipline systems, however, the resulting policies and practices threaten equal educational opportunity. 31  

Research on use of exclusionary discipline suggests that suspensions and expulsions are frequently overused, and, in many instances, the educational costs, which tend to concentrate on black students, exceed the benefits. In their reviews of research on the effects of policies that mandate exclusionary discipline for certain behaviors, the American Academy of Pediatrics and the American Psychological Association each concluded that increased use of out-of-school suspensions and expulsions tend not to improve schools’ educational climates or academic achievement. 32 More particularly, after accounting for other risk factors, schools that use suspensions and expulsions at higher rates tend to also have lower levels of student academic achievement, a poorer school climate, and spend more time on discipline than those schools with lower rates of exclusionary discipline. 33

Unnecessary use of exclusionary discipline does not improve school safety or educational outcomes, but it does increase the risk of negative life outcomes for the students who experience disciplinary exclusion. 34 Longitudinal studies comparing adults with similar demographic characteristics who engaged in similar behaviors as students show that, when compared to those who were not suspended

31. See Girvan PSYCHOLOGY AND LAW, supra note 11, at 235.
for their behaviors, those who were suspended had a significantly greater risk of poor academic achievement, dropping out of school, becoming the victim of a crime, committing a crime, and being incarcerated as an adult.\textsuperscript{35} Similarly, analysis of data from a national longitudinal study of youth found that, after controlling for a variety of other factors, more than 15% of the racial disparity in arrests rates for adults could be explained by racial disparities in experiences of those adults with exclusionary discipline during their youth.\textsuperscript{36}

A major link between these negative life outcomes and exclusionary discipline is missed educational opportunity.\textsuperscript{37} Youth who are suspended or expelled lose critical instructional time. A recent analysis of school discipline outcomes in California schools found that suspensions accounted for approximately 840,000 days—the equivalent of about 2,300 calendar years—of missed instruction in the 2014–2015 school year alone.\textsuperscript{38} When broken down by race, this is an average of 43 days of instruction per 100 black students compared to just 11 days per 100 white students.\textsuperscript{39} Not surprisingly, students who experience exclusionary discipline are far more likely to have to repeat a grade or to drop out of school than other similarly situated students.\textsuperscript{40}

\begin{thebibliography}{9}
\bibitem{Id} Id.
\bibitem{Fabeo2017} See Fabeo et al., supra note 4, at 54–60; J. C. Barnes & Ryan T. Motz, \textit{Reducing Racial Inequalities In Adulthood Arrest by Reducing Inequalities in School Discipline: Evidence From the School-to-Prison Pipeline}, 54 DEVELOPMENTAL
\end{thebibliography}
And individuals who drop out of school have a much higher risk of incarceration than those who complete their primary and secondary education.\textsuperscript{41} Indeed, in 2010, approximately 13% of all white men and 35% of black men aged 20 to 39 in the United States who had not completed high school were held in jail or prison.\textsuperscript{42}

Contributing Factors

Final decisions regarding whether to use exclusionary discipline, like out-of-school suspensions or expulsions, are generally made by school-level administrators (e.g., a vice principal), with, in serious cases, an additional hearing at the district level.\textsuperscript{43} As a process matter, however, discipline decisions typically start with a student’s behavior and a classroom teacher or staff member who identifies the behavior as a violation of their own or their school’s expectations for what is appropriate in that school.\textsuperscript{44} If teachers or staff feel that they cannot adequately address the violation on their own, or where a school zero-tolerance policy requires, then they will then send the student to an administrator for more formal discipline.\textsuperscript{45}

Researchers working to better understand the causes of racial disproportionality in school discipline have focused their inquiry on three primary categories of factors thought to influence the elements of the disciplinary decision process: (1) student behaviors and structural antecedents; (2) bias in teachers’ responses to student behaviors and discipline decisions; and (3) school administrators’ discipline policies and discipline decisions.\textsuperscript{46} As one would expect, among the strongest


\textsuperscript{43} See Girvan PSYCHOLOGY AND LAW, supra note 11, at 239.

\textsuperscript{44} Erik J. Girvan, Kent McIntosh, & Maria Reina Santiago-Rosario, Associations Between Community-Level Racial Biases, Office Discipline Referrals, and Out-of-School Suspensions 6 (Working Paper 2020) (submitted for Peer Review).

\textsuperscript{45} See id. at 240–41; Anne Gregory et al., The Achievement Gap and the Discipline Gap: Two Sides Of The Same Coin?, 39 EDUC. RESEARCHER 59, 62–63 (2010); Richard O. Welsh & Shafiqua Little, The School Discipline Dilemma: A
predictors of whether students are referred to the office, and ultimately suspended or expelled, is the nature of their behavior.\textsuperscript{37} Students who engage in more serious violations of schools’ behavioral expectations (e.g., possession or use of drugs, fighting) directly threaten their or others’ health or safety, and are, therefore, far more likely to be suspended or expelled than those whose behaviors may violate school rules but do not threaten student safety (e.g., talking back to a teacher, using a cell phone, sleeping in class).\textsuperscript{48} Numerically, however, the latter, less serious types of discipline incidents, often categorized as defiance and disrespect, are far more common.\textsuperscript{49}

Given the strong association between student behavior and discipline outcomes, an initial question is thus: do differences in behaviors of students from different racial backgrounds explain racial disparities in the rates of discipline outcomes? Studies attempting to answer this question indicate that black students tend not to be removed from the classroom at higher rates than white students for more serious violations for which exclusionary discipline may be necessary.\textsuperscript{50} Black students are, however, suspended or expelled at higher rates than white students for more common, minor offenses.\textsuperscript{51} For example, one study of over 50,000 high school students found no racial differences in rates

\begin{flushright}
\end{flushright}


\textsuperscript{48} See Parsing Disciplinary Disproportionality, supra note 47, at 643.


of suspensions for fighting, weapons, tardiness, cheating, or cell-phone use.52 By comparison, white students were disciplined at higher rates than black students for drug and alcohol use, while black students were suspended more frequently for verbal violations, such as talking, arguing, bad language, and making threats.53 Another study of over 900,000 students in Texas found that, as the students progressed through middle and high school, black students were 23% less likely than white students to have experienced discipline for the sort of serious violations for which discipline was mandated.54 But black students were 31% more likely than white students to have been disciplined for more minor behaviors where discipline was at the teachers’ or administrators’ discretion.55

Consistent with these studies, it is thus possible that a portion of the different rates of discipline of black and white students stem from actual differences in behaviors of students from different racial groups. However, the violations for which black students are disciplined at higher rates also tend to be those associated with more subjectively defined expectations and thus are the ones that are more vulnerable to the effects of racial biases.56 Accordingly, it is also possible that the racial discipline disparities result from teachers and administrators responding differently to similar behaviors enacted by students from different racial groups.57

52. See Francis L. Huang & Dewey G. Cornell, Student Attitudes and Behaviors as Explanations for the Black-White Suspension Gap, 73 CHILD. & YOUTH SERVICES REV. 298, 303–04 (2017).
53. See id. at 303.
54. FABELO ET AL., supra note 4, at 45.
55. FABELO ET AL., supra note 4, at 45; see also Keith Smolkowski et al., Vulnerable Decision Points for Disproportionate Office Discipline Referrals: Comparisons of Discipline for African American and White Elementary School Students, 41 BEHAV. DISORDERS 178, 184 (2016) (examining conditions under which there are larger racial discipline disparities for violations of subjectively defined as compared to objectively defined behavioral expectations).
57. See Relative Contribution, supra note 49, at 393–94.
With respect to the former possibility, some researchers posit that discipline disparities reflect genuine racial differences in patterns of student behavior attributable to factors like different experiences with resource scarcity, different cultural norms regarding communication, and differences in social identity stemming from inequity.58 Black students, for example, tend to be exposed to risk factors for increased difficulty complying with behavioral expectations in schools at higher rates than white students, including having fewer financial resources,59 lower academic engagement,60 parents with less formal education,61 and more abuse and neglect.62 With respect to


culture, racial disparities in discipline for violations of verbal expectations may reflect a tendency for black students to culturally value and use more expressive, direct, active, or confrontational communication styles than their predominantly white teachers. Finally, experiences with inequity itself may lead to behavioral differences. Black students transitioning from primary to secondary school become increasingly aware of structural and social disparities in their interactions with their schools and thus, are more likely to disengage from those institutions. Similarly, black students, who perceive little chance for success through educational systems they experience as oppressive, may dismiss any efforts to succeed academically as selling out their identity or “acting White.”

Studies that take into account the contributions of the structural, cultural, and behavioral factors to discipline outcomes, however, indicate that any racial differences in these factors are, at most, only part of the picture. Racial disparities in discipline are also likely caused by the direct or indirect effects of teachers’ and administrators’ racial biases. For example, as a result of common racial stereotypes,


66. See Girvan Psychology and Law, supra note 11, at 258.
teachers may tend to anticipate more inappropriate behavior from black students than white students, view black students as older and more culpable than similarly aged white students, or more quickly conclude that black students are troublemakers. Similarly, teachers may tend to look for potential problem behaviors in black students that they may miss in white students, interpreting these minor behaviors as less manageable instructionally. As a result, teachers may see potentially disruptive behaviors by black students as more deserving of exclusionary discipline.

Supporting these conclusions is evidence that students’ race has a direct effect on discipline outcomes. After accounting for the influence of other antecedent factors like poverty, multiple large-scale studies consistently show that black students still tend to be 1.2 to 1.6 times as likely to be sent to the office and 1.5 to 2.0 times as likely to be suspended or expelled as similarly situated white students. Further, even when the same teachers and students are involved, racial disparities are higher for violations of subjectively defined behavior expectations, which are more likely to be influenced by biases, than for objectively defined ones, which are more robust to the effects of racial stereotypes and attitudes. Consistent with these patterns, the few studies of which I am aware that have examined the relationship between implicit and explicit measures of racial biases and racial


70. See id. at 618–20.

71. See id. at 620–22.

72. See Girvan Psychology and Law, supra note 11, at 252.

73. See Relative Contribution, supra note 49, at 400–02.

disparities in school discipline have found statistically significant, albeit modest, relationships between them.\textsuperscript{75} Racial biases likely impact teachers’ perceptions of students’ behaviors as well as teachers’ decisions about how to respond to them, and thus also likely contribute to the magnitude of racial disparities in school discipline.

Finally, racial differences in discipline outcomes may occur more indirectly from a combination of these racial biases and school administrators’ discipline philosophies and the corresponding discipline policies and practices implemented at their schools.\textsuperscript{76} Students who attend schools in which the principal has a more punitive and exclusionary orientation to discipline are approximately 1.4 times more likely to be suspended and 2.3 time more likely to be expelled than those who attend schools led by a principal with an educational and preventative orientation.\textsuperscript{77} The difference in administrative approach contributes to racial inequity, in part, because schools with higher enrollments of black students are more likely to have principals who favor punitive discipline.\textsuperscript{78} Indeed, even after accounting for the direct effects of antecedent factors, the resulting differences in students’ levels of academic engagement and behaviors, and other relevant factors, schools with higher percentages of black students tend to make more use of exclusionary discipline.\textsuperscript{79} Accordingly, some of the overall racial differences in exclusionary discipline is likely a product of de facto racial segregation of schools coupled with


\textsuperscript{76} See Girvan \textsc{Psychology and Law, supra} note 11, at 258–59.

\textsuperscript{77} See \textsc{Parsing Discipline Disproportionality, supra} note 47, at 657.


systematic differences in rates at which the schools that black and white students attend use exclusionary discipline.80

C. Inadequacy of Anti-Discrimination Law

Teachers’ and administrators’ racial biases likely contribute to racial discipline disparities. They are not, however, the only or even primary cause of the disparities. Factors ranging from differences in cultural norms of communication, rates of poverty, stress, academic engagement, feelings of belonging for students from different racial backgrounds, and the discipline philosophies of administrators in the schools they attend also produce racial discipline disparities.81 Effective elimination of racial disproportionality thus requires addressing more than overtly discriminatory policies and practices. Federal anti-discrimination law, however, focuses primarily on elimination of only the direct effects of racial bias and discriminatory discipline systems. As such, it lacks the scope necessary to require schools to narrow the racial exclusionary discipline gap as much as might otherwise be possible.

The focus and scope of inquiry under anti-discrimination law is generally defined by one of two theories of prohibited behavior: disparate treatment or disparate impact. Provisions that protect against disparate treatment, such as the Equal Protection Clause of the


81. See supra Section I.C.
Fourteenth Amendment\textsuperscript{82} and Title VI\textsuperscript{83} and Title VII\textsuperscript{84} of the Civil Rights Act of 1964, make individuals or the organizations they represent liable for purposefully discriminatory decisions.\textsuperscript{85} Such decisions are those made in order to produce a different result for individuals from one racial group than for individuals belonging to a different racial group.\textsuperscript{86}

\textsuperscript{82} See Washington v. Davis, 426 U.S. 229, 239 (1976); see also Vill. of Arlington Heights v. Metro. Hous. Dev. Corp., 429 U.S. 252, 266, 270–71 (1977) (finding that denial of a zoning variance for a racially integrated housing project in an all-White Chicago suburb was constitutional because the plaintiffs could not show that racial discrimination was “a motivating factor in the decision”).

\textsuperscript{83} Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d (2018) (“No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”).

\textsuperscript{84} Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e-2 (2018); see also McDonnell Douglas Corp. v. Green, 411 U.S. 792, 800 (1973); Int’l Bhd. of Teamsters v. United States, 431 U.S. 324, 335 (1977); Price Waterhouse v. Hopkins, 490 U.S. 228, 250 (1989) (“In saying that gender played a motivating part in an employment decision, we mean that, if we asked the employer at the moment of the decision what its reasons were and if we received a truthful response, one of those reasons would be that the applicant or employee was a woman.”); Ricci v. DeStefano, 557 U.S. 557, 577 (2009) (interpreting Title VII).

\textsuperscript{85} Courts often refer to such discrimination as stemming from “racial animus.” See, e.g., Furnco Constr. Corp. v. Waters, 438 U.S. 567, 580 (1978). “Racial animus,” however, is not necessarily a prerequisite for liability and does not necessarily accurately capture the types of motives that can lead to purposeful discrimination. See generally Erik J. Girvan & Grace Deason, Social Science in Law: A Psychological Case for Abandoning the “Discriminatory Motive” Under Title VII, 60 Clev. St. L. Rev. 1057 (2013). For a more comprehensive discussion of the nature of this and other “discriminatory” motives, see Id.

\textsuperscript{86} See McDonell Douglas Corp., 411 U.S. at 800 (“The language of Title VII makes plain the purpose of Congress to assure equality of employment opportunties and to eliminate those discriminatory practices and devices which have fostered racially stratified job environments to the disadvantage of minority citizens.”). Depending upon the particular domain, the protections of anti-discrimination law extends to membership in other legally protected categories. Title VII, for example, makes it illegal to take an adverse employment action based on an “individual’s race, color, religion, sex, or national origin.” 42 U.S.C. § 2000e-2(a)(1) (2018). Given the focus of this article on racial disparities in school discipline, for simplicity in the discussion of anti-discrimination law, this article refers only to race. In doing so, I am mindful that race itself is a highly problematic construct subject to social construction, negotiation, and manipulation. See Alfredo J. Artiles, Fourteenth Annual Brown
In practice, purposefully discriminatory decisions tend to occur either as a matter of policy or practice. For the former, racial differences in outcomes are explicitly directed by a statute (e.g., racially segregating schools), contract (e.g., racially restrictive covenants), or other guidelines being applied by the decision maker. In the latter scenario, racial discrimination is inserted into the decision-making process by individuals who enforce race-neutral provisions differently for people belonging to different racial groups (e.g., enforcing certain health and safety regulations only against businesses operated by Chinese immigrants, stopping and frisking black men). Courts have held that an informal discipline policy of treating black students more leniently than similarly situated white students constitutes disparate treatment, as does selectively enforcing a race-neutral drug policy to discipline a black student but not an equally involved white student. The duty to avoid purposefully discriminatory decisions, however, does not require decision-makers to work to avoid discriminatory outcomes. Disparate treatment provisions do not, for example, prohibit policies or practices that negligently, recklessly, or even knowingly produce racial disparities, so long as the decision can be explained as part of an effort to achieve a non-discriminatory goal.

Lecture in Education Research, Reenvisioning Equity Research: Disability Identification Disparities as a Case in Point, 48 Educ. Researcher. 325, 330–331 (2019) (“[Race] has transmogrified from a biological marker into a sociocultural category, and more recently, biological categorizations of race are returning.”).
94. See id. at 279–81 (knowing that a governmental action would produce a discriminatory outcome did not violate the Equal Protection Clause so long as it was done “in spite of” rather than “because of” that result); Hayden v. Paterson, 594 F.3d
Disparate treatment claims are thus designed to root out discrimination that can be shown through direct or circumstantial evidence that someone purposefully treated people differently based on their race. 95 This is not always possible. As the Supreme Court has observed, impermissible discrimination can also result from “unconscious prejudices and disguised animus that escape easy classification as disparate treatment.”96 In these instances, anti-discrimination laws allow plaintiffs to bring claims under a disparate impact theory.97 To do so, they must show that a specific policy or practice unjustifiably produced discriminatory effects.98 Typically, racially disparate effects of a policy, such as use of a particular test for selection, are shown through statistical analysis indicating an adverse impact on members of a particular racial group.99 Statistical disparities, however, are not enough to raise the necessary inference of discrimination.100 If the difference occurred by chance, resulted from

150, 163, 168 (2d Cir. 2010) (“Absent any adequately supported factual allegations as to discriminatory intent behind the enactment of the 1894 constitutional provision, we are compelled to find that the New York Constitution’s requirement that the legislature pass felon disenfranchisement laws is based on the obvious, noninvidious purpose of disenfranchising felons, not Blacks or Latinos.”)

95. See Paterson, 594 F.3d at 162–64.
100. See Tex. Dep’t of Hous. & Cnty. Affairs v. Inclusive Communities Project, Inc., 135 S. Ct. 2507, 2512 (2015). Compare Griggs v. Duke Power Co., 401 U.S. 424, 426, 431–32, (1971) (Policy of requiring high school completion or certain level of performance on an intelligence test held to be disparate impact where the requirements had no demonstrable relationship to successful workplace performance, were adopted without meaningful study, disqualified Black applicants at a substantially higher rate than White applicants, and were part of a selection procedure
the effects of non-racial factors, or cannot be directly attributed to the specific policy itself, then the policy is legally permissible and can be retained.\textsuperscript{101}

There are no particular thresholds for what constitutes an adverse impact. Courts tend, however, to give more weight to relatively large or statistically significant discrepancies.\textsuperscript{102} For their part, federal agencies charged with enforcing disparate impact provisions have recognized a need to be able to efficiently identify policies and practices producing adverse impacts and, thus, where further investigation is needed. For example, as “a practical means of keeping the attention of the enforcement agencies on serious discrepancies in rates of hiring, promotion and other selection decisions,” the Equal Employment Opportunity Commission (EEOC) has promulgated a guideline threshold based on “impact ratios” (IRs).\textsuperscript{103} IRs are computed as a comparison of the selection rate of members of the racial group in question to those of the racial group with the highest selection rate.\textsuperscript{104}

\[
IR = \frac{\text{Proportion of target group selected}}{\text{Proportion of group with highest selection rate selected}}
\]

Under the guideline, the EEOC considers an IR of less than 4/5ths (80\%) as an indication of “a substantially different rate of selection.”\textsuperscript{105} To illustrate the approach:

\begin{itemize}
  \item for jobs that formerly had been filled only by White employees as part of a long-standing practice of giving preference to White applicants with Wal-Mart Stores, Inc. v. Dukes, 564 U.S. 338, 355–60 (2011) (sex disparities resulting from policy prohibiting discrimination but allowing discretionary decisions not actionable without evidence that decision-makers had and were impacted by a common bias).
  \item See Larry P. by Lucille P. v. Riles, 793 F.2d 969, 979–984 (9th Cir. 1984); Ga. State Conference of Branches of NAACP v. Georgia, 775 F.2d 1403, 1417–20 (11th Cir. 1985).
  \item See id.
  \item Id.
[I]f the hiring rate for whites other than Hispanics is 60%, for American Indians 45%, for Hispanics 48%, and for Blacks 51%, . . . a comparison should be made of the selection rate for each group with that of the highest group (whites). These comparisons show the following impact ratios: American Indians 45/60 or 75%; Hispanics 48/60 or 80%; and Blacks 51/60 or 85%. Applying the 4/5ths or 80% rule of thumb, on the basis of the above information alone, adverse impact is indicated for American Indians but not for Hispanics or Blacks.106

Along with the 4/5ths IR guideline, when making adverse impact enforcement decisions, the EEOC also considers other evidence, such as the size of the sample, whether the composition of the applicant pool may be unusual, and the real-world impact of the discrepancy.107

Even policies that directly cause a racially adverse impact may be considered legally acceptable if they are based on a practical necessity. Those acting on behalf of the government may, for example, adopt or maintain policies and practices with racially discriminatory effects if they can show that the underlying goals for the policies are legitimate and there are no less discriminatory alternatives to the policy available.108 Similarly, employers may defend against disparate impact claims by showing that the policy or practice is grounded in a “legitimate, job-related purpose”109 or “business necessity”110 and where there are no other available policies that would serve that interest without producing the disparate impact.111 In the context of schools, courts have found that an analogous “educational necessity”

---

106. Id.
can justify disparate impacts if there are no less discriminatory alternative policies that satisfy the same goal. \footnote{See Ga. State Conference of Branches of NAACP v. Georgia, 775 F.2d 1403, 1417–18 (11th Cir. 1985); see also Elston v. Talladega Cty. Bd. of Educ., 997 F.2d 1394, 1412–13 (11th Cir. 1993); Larry P. By Lucille P. v. Riles, 793 F.2d 969, 982 (9th Cir. 1984).}

With respect to school discipline, the United States Department of Justice (DOJ) and DOE have the authority to investigate potential violations of Title VI, \footnote{See 42 U.S.C. § 2000d (2018); 28 C.F.R. § 42.104(b)(2) (2019); 34 C.F.R. § 100.3(b)(2) (2019); Alexander v. Sandoval, 532 U.S. 275, 279–82 (2001); United States v. Maricopa, Cty. of, 151 F. Supp. 3d 998, 1011–12 (D. Ariz. 2015); U.S. Dep’t of Just., Title VI Legal Manual at Sec. II (2001), https://www.justice.gov/crt/fcs/Title-6-Manual.} which prohibits entities that receive federal funds from having policies and practices with racially discriminatory effects \footnote{See Dep’t of Just., supra note 115, at VIII(B), XI; 42 U.S.C. § 2000d-1 (2018) (“[N]o such action shall be taken until the department or agency concerned has advised the appropriate person or persons of the failure to comply with the requirement and has determined that compliance cannot be secured by voluntary means.”).} and, ultimately, to discontinue funding of recipients who violate the regulations. \footnote{See Dep’t of Just., supra note 115, at Sec. XI(C).} Enforcement of these provisions involves a multi-step approach that allows schools to justify the policy in question and show that no feasible alternatives are available or, if necessary, correct the policy. \footnote{See Girvan Psychology and Law, supra note 11, at 246–48.} The duty to avoid disparate impacts, however, does not require them to look beyond the discipline policy itself or to identify or address broader causes of these racial disparities. \footnote{See Elston, 997 F.2d at 1412.}

III. THE PROBLEM-SOLVING APPROACH TO RACIAL DISPARITIES IN DISCIPLINE UNDER THE IDEA

Persistent racial disparities in school discipline pose a substantial threat to achieving equal educational opportunity. Anti-discrimination law can address some of the factors that produce racial disparities in school discipline, such as the direct effects of racial stereotypes on discipline policies or practices. The most promising
approaches for addressing racial disproportionality, however, move beyond targeting the direct effect of overt race discrimination to address issues like differences in communication styles, the strength and quality of student-teacher relationships, and academic engagement. Consistent with this, education researchers recommend a much broader menu of potential intervention targets than those which create liability under disparate treatment and disparate impact doctrine.119 To be sure, some of the recommended targets directly involve discipline policies (e.g., consistent discipline policies, positive support for compliance with behavioral expectations, a continuum of consequences).120 Others, however, relate to instruction (e.g., explicit teaching of behavioral expectations), the delivery of academic content (e.g., engaging, culturally responsive, and relevant instruction), or more general social learning (e.g., social emotional learning, construction and restoration of strong relationships).121 Problem-solving models, like those under the IDEA, are flexible enough to require states, districts, and schools to consider the range of factors that contribute to racial discipline disparities. As such, they offer a promising, flexible alternative framework for anti-discrimination law that will enable it to play a more constructive and comprehensive role in reducing those disparities.

A. Problem-Solving Approaches

Problem-solving models are regularly used in applied fields like education to help guide the diagnosis of and response to the relevant issue. Specific models vary, but all generally consist of a

119. See infra note 121 and accompanying text.
120. See infra note 121 and accompanying text.
flexible framework designed to organize the problem-solving process into a cycle of discrete, focused steps or tasks. As shown in Figure 1, the steps include:

- Problem identification (What is the goal? How does the current situation differ from that goal?),
- Problem analysis (What is causing the gap?),
- Intervention selection or design and implementation (What can we do to address the causes? How will we do it? How will we determine if it is successful?), and
- Intervention evaluation (Did the intervention close the gap? Why or why not?). 122

Figure 1. Steps in Problem-Solving Model

For complex issues, even the most well designed and targeted interventions are unlikely to solve the problem for everyone. Accordingly, problem-solving models are often used iteratively according to what are described as multi-tiered systems of support (MTSS).  

Figure 2. Multi-Tiered Systems of Support

As illustrated in Figure 2, the tiers in MTSS correspond to the scope of the problem being targeted and implementation of the corresponding intervention. The first iteration, Tier 1, of the problem-solving model focuses on defining and understanding the problem in the whole population of interest and then developing and implementing a universal intervention for that population. Evaluation of a Tier 1 intervention’s performance should show that it effectively


124. See McIntosh & Goodman, supra note 123, at 5.
addressed the identified problem for the majority of the population. Un universal interventions, however, are rarely effective for everyone. Tier 2 thus focuses on the portion of the population that are not achieving the specified goal, identifying factors that prevent them from doing so, and implementing a supplemental intervention to address those factors. The supplemental supports from the second iteration should close the gap further; however, as with the universal intervention, these frequently do not completely solve the problem. Tier 3 guides identification of the remaining barriers to achieving the goal. For individuals that did not respond to the universal and supplemental supports, the barriers are likely unique, and thus further interventions may have to be customized for each individual.

Problem-solving approaches are used in conjunction with MTSS to address a variety of instructional and behavioral issues in schools. The Response-to-Intervention (RTI) approach for identifying students with learning disabilities under the IDEA provides a classic instructional example. In an RTI approach, the goal might be to have all students reading at grade level by the end of third grade. Following research into the best ways to engage in reading instruction, Tier 1 might result in introduction of a new reading curriculum for all primary-school students. Evaluation of a research-based reading curriculum might show that approximately 75% of students will achieve the goal and read at grade level by the end of third grade. For the remaining 25%, Tier 1’s universal intervention is not effective. Identification of additional barriers and implementation of

125. See id. at 7.
126. See id. at 14–15.
127. See id. at 14–15.
128. See id. at 14–15.
129. Ryan McGill et al., Critical Issues in Specific Learning Disability Identification: What We Need to Know About the PSW Model, 39 LEARNING DISABILITY Q. 159, 159 (2016); see also Loan Tran et al., A Meta-Analysis of the RTI Literature for Children at Risk for Reading Disabilities, 44 J. LEARNING DISABILITIES 283, 283 (2011); Russell Gersten & Joseph A. Dimino, RTI (Response to Intervention): Rethinking Special Education for Students with Reading Difficulties (yet again), 41 READING RES. Q. 99, 100 (2006) (“The purpose of RTI is not only to provide early intervention for students who are at risk for school failure but also to develop more valid procedure for identifying students with reading disabilities.”).
supplemental reading instruction and progress monitoring in Tier 2 will generally decrease the number of students who remain at risk of not reading at grade level to between 5% and 10%.\textsuperscript{131} Under the RTI approach, because these 5% to 10% of students have not responded to either of the Tier 1 or Tier 2 interventions, they would be identified as having a learning disability under the IDEA; thus, their school would be required, as a Tier 3 intervention, to develop and implement an Individualized Education Program for them.\textsuperscript{132}

Similarly, several intervention frameworks that are designed to reduce the incidence of, or inequity in, exclusionary school discipline also follow the MTSS problem-solving model. For example, Positive Behavior Interventions and Supports (PBIS), a federally recommended intervention that is used at some level in as many as 25,000 schools,\textsuperscript{133} targets violations of behavioral expectations that occur because students are unaware of or have inadequate incentives to comply with them, as might be the case with cultural differences,

\textsuperscript{131} \textit{See id. at 8; see also} Jack M. Fletcher \\ & Sharon Vaughn, \textit{Response to Intervention: Preventing and Remediating Academic Difficulties}, 3 CHILD DEV. PERSP. 30, 32 (2009).

\textsuperscript{132} \textit{See Charles A. Hughes} \\ & Douglas D. Dexter, \textit{Response to Intervention: A Research-Based Summary, 50 THEORY INTO PRACT.} 4, 5, 8 (2011); \textit{see also} 34 C.F.R. \textsuperscript{\textsection} 300.8 (2019) (defining child with a disability); 34 C.F.R. \textsuperscript{\textsection} 300.306 (2019) \textit{(determination of eligibility under the IDEA)}; 34 C.F.R. \textsuperscript{\textsection} 300.323 (2019) \textit{(stating when IEPs must be in effect)}; 34 C.F.R. \textsuperscript{\textsection} 300.301 (2019) \textit{(detailing initial evaluations under the IDEA)}.

\textsuperscript{133} \textit{Ken McIntosh et al., Do Schools Implementing SWPBIS Have Decreased Racial and Ethnic Disproportionality in School Discipline, Positive Behav. Interventions \& Support} 2 (Mar. 2018), https://assets-global.website-files.com/5d3725188825e071f1670246/5d7ac87c3af0212c7783631e_do%20schools
\textsuperscript{\textcircled{\textparagraph}}20implementing%20swpbis%20have%20decreased%20racial%20and%20ethnic%20disproportionality%20in%20school%20discipline-2.pdf; \textit{see also} George Sugai \\ & Robert R. Horner, \textit{A Promising Approach for Expanding and Sustaining School-Wide Positive Behavior Support}, 35 SCH. PSYCHOL. REV. 245, 246 (2006) \textit{(describing SWPBIS as “firmly rooted in an applied behavior analytic tradition and in a solid body of research in which the focus is on the behavior of the individual and the contexts or environments in which the individual’s behaviors are observed”); Sue Swenson} \\ & Ruth E. Ryder, U.S. Dep’t of Educ, Dear Colleague Letter on Discipline of Children with Disabilities 8, 16 (Aug. 1, 2016), https://www2.ed.gov/policy/gen/guid/school-discipline/files/dcl-on-pbis-in-ieps—08-01-2016.pdf \textit{(pointing to PBIS models as one way of creating safe and supportive school climates).}
disenfranchisement, or, in more extreme cases, neglect.\textsuperscript{134} To address these barriers, in Tier 1, the PBIS framework emphasizes explicitly defining and proactively teaching behavioral expectations to all students.\textsuperscript{135} It also promotes increased use of informal or formal rewards for students who exhibit expected behaviors and a continuum of consequences and additional instruction and support for those who do not.\textsuperscript{136} Evaluations of PBIS indicate that, when implemented according to guidelines, it reduces incidents of violations of behavioral expectations and rates of suspensions and expulsions by 20% to 40%.\textsuperscript{137} Further, there is evidence that PBIS is particularly effective at reducing discipline incidents for students who have the highest risk for violations of behavioral expectations.\textsuperscript{138}

\begin{flushleft}
\textsuperscript{134} See supra notes 58–65 and accompanying text.
\textsuperscript{136} See Robert H. Horner et al., \textit{Examining the Evidence Base for School-Wide Positive Behavior Support, 42 FOCUS ON EXCEPTIONAL CHILD.} 1, 4–6 (2010).
\textsuperscript{137} See Bryce Ward & Russell Gersten, \textit{A Randomized Evaluation of the Safe and Civil Schools Model for Positive Behavioral Interventions and Supports at Elementary Schools in a Large Urban School District, 42 SCH. PSYCHOL. REV.} 317, 329–30 (2013) ("On average, the first year of training reduced the incidence rate for suspensions by 17% and the incidence rate for the suspended days by 22%; the second year of SCS training reduced the incidence rate for suspensions by 23% and the incidence rate for the number of days suspended fell by 26."); see also Keith Smolkowski et al., \textit{Scale-up of Safe & Civil Schools’ Model for School-Wide Positive Behavioral Interventions and Supports, 53 PSYCHOL. SCH.} 339, 353 (2016) ("Placed in the context of incident rate ratios derived from Poisson regressions, the odds that a student would have been suspended were essentially flat (increasing by less than 4% per year in Cohorts 2 and 4) before SCS Foundations training, but the odds declined by a statistically significant 17% per year after training (coefficient = 0.168, p = .002."); J. Ron Nelson, \textit{Designing Schools to Meet the Needs of Students who Exhibit Disruptive Behavior, 4 J. EMOTIONAL & BEHAV. DISORDERS} 147, 155 (1996) ("There were clear decreases in the disciplinary actions of the experimental schools following the implementation of the project. For example, the number of suspensions decreased over 40% during the course of the project. In contrast, the number of disciplinary actions in the comparison schools increased."); Catherine P. Bradshaw et al., \textit{Examining the Effects of Schoolwide Positive Behavioral Interventions and Supports on Student Outcomes: Results from a Randomized Controlled Effectiveness Trial in Elementary Schools, 12 J. POSITIVE BEHAV. INTERVENTIONS} 133, 139–41, 145 (2010).
\textsuperscript{138} See Catherine P. Bradshaw et al., \textit{Examining Variation in the Impact of School-Wide Positive Behavioral Interventions and Supports: Findings From a
A second framework for achieving the goal of safe, orderly, and equitable learning environments, social-emotional learning, is not necessarily as closely associated with core discipline policies and practices as PBIS. Rather, social-emotional learning is based on a constellation of theories showing that disruptive, violent, and antisocial behavior is often related to students’ lack of awareness and ability to manage themselves and their social relationships.  


139. See Joseph A. Durlak et al., The Impact of Enhancing Students’ Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions, 82 Child Dev. 405, 406–07 (2011); David Osher et al., How Can We Improve School
these barriers, in addition to academic instruction, schools can explicitly teach students generalizable ways to better regulate their emotions and behavioral responses and to develop positive relationships with their peers and teachers. As with PBIS, there is a substantial body of evidence that social-emotional learning approaches, when implemented well, can reduce overall student violations of behavioral expectations.

1. The IDEA’s Problem-Solving Approach to Discipline Disparities.

How might federal anti-discrimination law be restructured as a problem-solving approach with the potential to more effectively address the range of causes racial disparities in school discipline? While focused primarily on equal educational opportunities for students with identified disabilities, the IDEA provides an example on how to address racial disparities in discipline in at least two ways. First, the most basic way the IDEA could inform expansion of anti-discrimination law is that it can serve as a template for what to do statutorily to require use of a problem-solving approach for reducing

---

1. See Osher et al., supra note 139, at 51.

2. See Durlak et al., supra note 139, at 412–13, 417; see also Hanke Korpershoek et al., A Meta-Analysis of the Effects of Classroom Management Strategies and Classroom Management Programs on Students’ Academic, Behavioral, Emotional, and Motivational Outcomes, 86 Rev. of Educ. Res. 643, 668–69 (2016) (finding that several different methods of classroom management styles have beneficial effects but those that focused on “the social-emotional development of the students were somewhat more effective than interventions without this component”). Also, like PBIS, research into the effectiveness of social-emotional learning interventions suggests that it is not always effective for all students in all contexts, such as black students in certain high-risk urban settings. See Scott L. Graves et al., Examining the Effectiveness of a Culturally Adapted Social-Emotional Intervention for African American Males in an Urban Setting, 32 Sch. Psychol. Q. 62, 71(2017). Thus, the universal implementation of the approach may not be effective at addressing racial disparities in every context, and further iterative deployment of supplemental supports needed for certain schools. See Anne Gregory & Edward Fergus, Social and Emotional Learning and Equity in School Discipline, 27 Future Child. 117, 128–30 (2017).
racial disparities. The second way that the IDEA can inform movement to a problem-solving approach, discussed in part B below, is through experience navigating some of the legal, practical, and methodological challenges of actually requiring use of a problem-solving approach, particularly with respect to problem identification.

The IDEA and its predecessor, the education for All Handicapped Children Act of 1975, were created with a goal of advancing equal educational opportunities and functional educational outcomes for students with disabilities.¹⁴²

Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities.¹⁴³

To help achieve this goal, Part B of the IDEA provides federal funding to states with policies and practices that provide free education to children with disabilities.¹⁴⁴ As a condition of receipt of this funding, states are required to collaborate with the DOE to quantitatively assess whether local educational agencies (LEAs) within each state are complying with the primary goals of the statute.¹⁴⁵ This requirement includes collecting and reporting to the DOE data regarding participation by students with disabilities, disaggregated by race, who are receiving several categories of educational services, as well as those who were subject to exclusionary school discipline.¹⁴⁶

assessments under the IDEA are structured to be constructive rather than punitive, with the ultimate emphasis on identifying where additional attention and support is needed in order to improve educational results for students with disabilities.\textsuperscript{147}

In addition to the general goals and the associated compliance-monitoring process, the IDEA establishes the process through which states and the federal government work to reduce or eliminate racially disproportionate outcomes. To do so, unlike typical sources of anti-discrimination law, the IDEA does not itself explicitly prohibit decisions made “because of” a student’s race or create liability for doing so.\textsuperscript{148} Rather, consistent with the problem-solving model, the first step of the process is problem identification.\textsuperscript{149} In this step, the IDEA requires states receiving funding under Part B and the federal government to gather information necessary to identify LEAs that have problematic racial disparities.\textsuperscript{150} In particular, states and the federal government must

provide for the collection and examination of data to determine if significant disproportionality based on race and ethnicity is occurring in the State and the [LEAs] of the State with respect to... the incidence, duration, and type of disciplinary actions, including suspensions and expulsions.\textsuperscript{151}

If a LEA has significant racial disproportionality, the state or federal government proceeds with a two-pronged problem analysis and

\begin{itemize}
\item \textsuperscript{147} 20 U.S.C. § 1416(d)–(e).
\item \textsuperscript{148} See, e.g., Title VII, 42 U.S.C. § 2000e-2(a)(1)–(2) (2018) ("It shall be an unlawful employment practice for an employer— (1) to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s race, color, religion, sex, or national origin; or (2) to limit, segregate, or classify his employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual’s race, color, religion, sex, or national origin.") (emphasis added).
\item \textsuperscript{149} See Lindsey Herzik, A Better IDEA: Implementing a Nationwide Definition for Significant Disproportionality to Combat Overrepresentation of Minority Students in Special Education, 52 San Diego L. Rev. 951, 960–62, 63–65 (2015).
\item \textsuperscript{150} See 20 U.S.C. § 1418(d)(1)
\item \textsuperscript{151} Id. (emphasis added).
\end{itemize}
intervention process.\textsuperscript{152} The first prong of the analysis is a requirement to review relevant policies, procedures, and practices to ensure that they are not causing the disparities and, if necessary, revision of them to bring them into compliance with the goals of the IDEA.\textsuperscript{153} The second prong requires identification of other factors that contribute to the significant disproportionality.\textsuperscript{154} The factors contemplated for consideration under the second prong are broadly defined and intended to be “comprehensive,”\textsuperscript{155} including:

[A] lack of access to scientifically based instruction; economic, cultural, or linguistic barriers to appropriate identification or placement in particular educational settings; inappropriate use of disciplinary removals; lack of access to appropriate diagnostic screenings; differences in academic achievement levels; and policies, practices, or procedures that contribute to the significant disproportionality.\textsuperscript{156}

Factors found to contribute to the significant disproportionality must then be addressed with provision of “comprehensive coordinated early intervening services.”\textsuperscript{157} Such intervention services are also broadly defined and may include “professional development” for teachers and “educational and behavioral evaluations, services, and supports” for any students, whether or not they have been identified as having a learning disability, “who need additional academic and

\textsuperscript{152} 34 C.F.R. § 300.646(c)–(d)
\textsuperscript{153} §306.646(c).
\textsuperscript{154} See §306.646(d).
\textsuperscript{155} DEP’T OF EDUC, FACT SHEET: EQUITY IN IDEA (Dec. 12, 2016), https://www.ed.gov/news/press-releases/fact-sheet-equity-idea; see also §306.646(f) (“Nothing in this section authorizes a State or an LEA to develop or implement policies, practices, or procedures that result in actions that violate the requirements of this part, including requirements related to child find and ensuring that a free appropriate public education is available to all eligible children with disabilities.”); OFF. SPECIAL EDUC. PROGRAMS, U.S. DEP’T EDUC, IDEA PART B REGULATIONS SIGNIFICANT DISPROPORTIONALITY (EQUITY IN IDEA) 81 FR 92376 (DECEMBER 19, 2016): ESSENTIAL QUESTIONS AND ANSWERS 19–24 (Mar. 2017), https://sites.ed.gov/idea/files/significant-disproportionality-qa-03-08-17.pdf.
\textsuperscript{156} §306.646(d)(1)(ii).
\textsuperscript{157} 20 U.S.C. § 1418(d)(2)(B); 34 C.F.R. § 300.646(d).
behavioral support to succeed.” Finally, the IDEA provides that the federal government will provide technical assistance to states and LEAs throughout this process and that a portion of the federal funding to the LEA under the IDEA be redirected to fund the evaluation and provision of these remedial services.

B. Challenges with Problem-Identification

While the provisions of the IDEA illustrate a problem-solving approach to addressing racial discrimination and supporting equal educational opportunity, the approach under the IDEA is not perfect. One of the more persistent issues associated with the IDEA’s approach is determining how to identify which LEAs have a sufficiently serious problem with racial disparities in discipline that further evaluation and intervention under the statute is necessary. From a methodological, normative, and practical perspective, how should racial disproportionality be measured? At what level of severity should racial disparities be considered sufficiently problematic to trigger a legally mandated problem-solving intervention? The answers are not necessarily straightforward and, as with many technical domains, there are devils in the details that few take the time to understand.

158. 34 C.F.R. § 300.646(d)(1).
162. As discussed in more detail in Section II.B.2, infra, seemingly technical decisions regarding selection of methods of assessing significant disproportionality can conceal policy decisions that impact whether racial disparities are ever detected or addresses.
“Significant disproportionality” is not defined under the IDEA. Even if it were, methodological details in assessing racial disparities can have substantial impacts on the understanding of the key elements of the problem, the number and identity of LEAs identified as needing intervention, selection and evaluation of potential interventions, and, ultimately, the effectiveness of the legal policy framework itself. More particularly, from 2004, when the process for identification and responding to significant disproportionality in discipline was added to the IDEA, until 2016, the regulations promulgated under the revised IDEA gave states the discretion to define the conditions under which review of discipline policies would be triggered. In practice, this required each state to select a measure to assess racial disparities among students with disabilities, establish minimum requirements for use of that measure, and set a threshold for significance. Numerous methods existed to make these determinations. Thus, it is not surprising that states ultimately adopted several different approaches for assessing which LEAs had significant disproportionality.

163. See Herzik, supra note 149, at 960.
164. See id. at 961–62.
166. See Id. at 141.
1. Risk-Based Measures of Discipline Disparities

The most common approaches to measuring racial disparities in discipline are based on risks. Discipline risks (R) are calculated as the proportion of students from a racial group (e.g., black students) who have experienced the type of exclusionary discipline of interest, such as a suspension or expulsion (see Equation 1).\(^{169}\)

\[
R = \frac{\text{# of Target Students Receiving Discipline}}{\text{Total # of Target Students}} \tag{1}
\]

For example, take an LEA in which 200 black students were enrolled.\(^{170}\) If 40 of them received at least one out-of-school suspension (OSS) in a school year, then the OSS risk for black students in that LEA for that year would be .20, indicating that 20% of the students had at least one OSS. If the same LEA had 1,000 white students enrolled and 100 of these students received at least one OSS, then the OSS risk for white students would be .10, as 10% of those students had at least one OSS.

The most basic approach selected by states for determining significant disproportionality directly compared the risk of discipline for students in each racial group to a threshold set by the state.\(^{171}\) Because a discipline risk is not itself comparative and, thus, is not actually a measure of disparities, the thresholds selected by states using this approach were necessarily set relative to the overall risks in the LEAs in the state. For example, in Texas, an LEA’s discipline risk for a group of students had to exceed the 95th percentile of risks for 2 consecutive years to be considered to have significant disproportionality.\(^{172}\) Applying this approach, the risk of discipline for students from a particular racial group would have to be higher than the risk in 95% of all the LEAs in that state (or, equivalently, in the highest

---


\(^{170}\) See Bollmer et al., \textit{supra} note 167, at 11–12. Risks are sometimes multiplied by 100 to place them on the same scale as percentages. \textit{Id.} at 11–12.

\(^{171}\) The IDEA focuses on students with disabilities. Because this article uses the IDEAs approach as an example that might be generalized through anti-discrimination law to all students, for simplicity, the examples and discussion will refer to disparities among all students.

\(^{172}\) See \textit{Scott}, \textit{supra} note 168, at 14.

\(^{173}\) See \textit{id.} at 39.
5% of LEAs) for two years to be considered significantly disproportionate.

A second approach selected by states for assessing significant disproportionality compared the risks of discipline for students from one racial group to that of all other students by calculation the difference between the two risks. \(^{173}\) More particularly, the discipline risk difference (RD) is the discipline risk for a target group (e.g., black students) minus the discipline risk for a comparison group, usually all other students (see Equation 2). \(^{174}\)

\[
RD = \left( \frac{\text{# of Target Students Receiving Discipline}}{\text{Total # of Target Students}} \right) - \left( \frac{\text{# of Comparison Students Receiving Discipline}}{\text{Total # of Comparison Students}} \right)
\]

Risk differences are relatively easy to compare between different populations and, because they are on the same scale as risks themselves, easy to interpret as absolute differences in risk: values of 0 indicate no difference in risks of discipline between the two groups. \(^{175}\) Values greater than 0 indicate the amount higher a risk is for the target group than the risk for the reference group. \(^{176}\) Values less than 0 indicate the amount lower a risk is for the target group. \(^{177}\) In the example above, black students had an OSS risk of .20 and white students .10. Assuming that the LEA did not have students from other racial groups, the LEA would have a black/non-black OSS risk difference of .10. This means that black students in the LEA had a .10 higher risk of receiving at least one OSS than non-black students.

The few states using risk differences to assess significant disproportionality adopted either fixed or relative values for their significance thresholds. In Mississippi, for example, LEAs were found to have significant disproportionality if the percentage of students in a target group receiving a suspension or expulsion in the LEA exceeded the percent of other students by 5% in a given year. \(^{178}\) Similarly, in California, LEAs were found to have significant disproportionality if

\(^{173}\) See Bollmer et al., supra note 167, at 50–51; Office Special Educ. Programs, supra note 168, at 29, 34.

\(^{174}\) See Bollmer et al., supra note 167, at 50–51.

\(^{175}\) Id. at 52

\(^{176}\) Id.

\(^{177}\) Id.

\(^{178}\) See Scott, supra note 168, at 37; Office Special Educ. Programs, supra note 168, at 27–28.
the risk of discipline for a group exceeded the state rate plus 2% in the current year and two of the three preceding years.\textsuperscript{179} By comparison, in Louisiana, the proportion of students who experienced discipline in an LEA needed to exceed 1.5 times the state average in a given year for the LEA to have significant disproportionality.\textsuperscript{180}

The third, and by far the most common, approach selected by states to determine racial disproportionality compared the risks of discipline for students from one racial group to that of all other students using a ratio.\textsuperscript{181} The discipline risk ratio (RR) is calculated by dividing the discipline risk for the target group (e.g., black students) by the discipline risk for the comparison group (e.g., non-black students; see Equation 3).\textsuperscript{182}

\[
RR = \frac{\frac{\# \text{ of Target Students Receiving Discipline}}{\text{Total \# of Target Students}}}{\frac{\# \text{ of Comparison Students Receiving Discipline}}{\text{Total \# of Comparison Students}}} \tag{3}
\]

Risk ratios are popular, in part, because they are relatively easy to compare between different populations and because their interpretation is perhaps most consistent with intuitive understandings of equitable treatment. Risk ratio values of 1 indicate no difference in risks of discipline between the two groups.\textsuperscript{183} Values greater than 1 indicate the number of times higher a risk is for the target group.\textsuperscript{184} Values less than 1 indicate the number of times lower a risk is for the target group than the risk for the reference group.\textsuperscript{185} Using the example LEA above, black students had an OSS risk of .20 and white students had an OSS risk of .10. Assuming that the LEA did not have students from other racial groups, the LEA would have a black-other student OSS risk ratio of 2. This indicates that black students in the LEA had twice the risk of receiving at least one OSS than non-black students. Equivalently, black students in these LEAs received OSSs at twice the

\textsuperscript{179} See Scott, supra note 168, at 36.
\textsuperscript{180} Id. at 37.
\textsuperscript{181} See Scott, supra note 168, at 36–40 (detailing that 8 out of the 16 states reviewed used risk ratios to determine significant disproportionality); 81 Fed. Reg. 10968, 10972 (Mar. 2, 2016) (“At the time of our review, 45 States used one or more forms of the risk ratio method to determine significant disproportionality.”).
\textsuperscript{182} See Bollmer et al., supra note 167, at 19–20.
\textsuperscript{183} Id. at 22; see also Cavendish et al., supra note 160, at 6 (listing the risk ratios for all 50 states).
\textsuperscript{184} See Bollmer et al., supra note 167, at 22.
\textsuperscript{185} Id.
rate one would expect as if they were suspended at the same rate as other students.

Most states that used them selected fixed values for their significance thresholds. LEAs that had discipline risk ratios at or above this value for a given period of time were identified as having significant disproportionality. For example, Alaska identified an LEA as having significant disproportionality in school discipline if its discipline risk ratio was 3.5 or higher for three consecutive years. In Connecticut, the threshold was 4.0 for two consecutive years. Florida defined significant disproportionality as a risk ratio of 3.5 or more in any year. Overall, reviews of fixed thresholds suggest that most states using this approach selected significance values of 2.0 to 4.0.

Ultimately, the choice of a specific threshold by each state is arbitrary. Even so, given how risk ratios are interpreted, thresholds may reflect a reasonable effort to approximate an intuitive understanding of what amounts to a serious problem (e.g., double the risk) or to operationalize a policy decision about resource allocation. There is, however, also some evidence that some states also selected relatively high thresholds in order to limit the need to address racial disparities, or even raised them over time to appear as if the disparities were improving.

Risk ratios also have several known mathematical and statistical shortcomings that can seriously undermine their ability to provide reliable information about racial disparities, particularly when the underlying risks or populations used to compute them are small. While there are recognized approaches for addressing some of these shortcomings, as with significance thresholds, the fact of the shortcomings and solutions themselves can be used to mask policy decisions that impact whether racial disparities are ever detected or addressed.

186. See SCOTT, supra note 168, at 36; OFFICE SPECIAL EDUC. PROGRAMS, supra note 168, at 20.
187. See SCOTT, supra note 168, at 36.
188. Id.
189. Id. at 36–40; 81 Fed. Reg. 10968, 10976.
190. See Cavendish et al., supra note 160, at 4, 7.
191. See Bollmer et al., supra note 167, at 22.
At the extreme, risk ratios cannot be calculated when the members of the comparison group did not experience any discipline because it is impossible to divide by zero. Similarly, because zero divided by any number equals zero, when the discipline risk for the target group is zero, risk ratios are also always zero, a value that is difficult to interpret. Both limits reduce the number of LEAs for which risk ratios can even be computed. Further, when the number of students experiencing discipline is small, risk ratios become unstable such that small changes in the number of students can create large changes in the risk ratio. To illustrate, for comparison to the first LEA example above, consider a second LEA with the same student population sizes, 200 black students and 1,000 white (non-black) students. The second LEA has lower overall discipline rates than the first example, such that just 8 black students and 20 white (non-black) students have one or more OSSs. Black students in the second LEA thus have an OSS risk of .04 and non-black students an OSS risk of .02. Note that this second LEA has the exact same risk ratio, 2, as the first example LEA. The discipline risk ratios thus indicate that racial disproportionality is exactly the same for both LEAs. However, slight changes to the number of students who received OSSs in the second LEA will substantially alter the conclusion that the two LEAs have similar levels of disproportionality. If, for example, just 4 fewer or 4 more black students in the second LEA had one or more OSS during the year, then the OSS discipline risk ratio for the LEA would change to 1 (indicating no racial disproportionality) or 3 (indicating worse disproportionality than the first example LEA), respectively.

To address the lack of stability, many states set minimum population size requirements for calculating discipline risk ratios. These requirements, referred to in the 2016 IDEA regulations as “cell sizes” for target groups and “N sizes” for comparison groups, varied considerably from state to state. For example, Connecticut and

---

192. Id.
193. See id at 23.
194. By comparison, the same change in number of black students with OSSs in the first LEA—plus or minus 4 students—would have only a modest impact on the discipline risk ratio: 1.8 or 2.2, respectively.
Louisiana had no minimum;\textsuperscript{196} Alaska, Delaware, Iowa, and Rhode Island required at least 10 students be enrolled in the group being examined;\textsuperscript{197} and West Virginia, South Carolina, and Pennsylvania required 20, 25, and 40 students, respectively.\textsuperscript{198} Enrollment minimums, however, do not necessarily guarantee that there will be enough discipline incidents to allow for stable ratios. Accordingly, some states also had requirements regarding the minimum number of students disciplined before they would compute a risk ratio. For example, Nebraska required a minimum of 30 students from the target group be enrolled in the LEA and that at least 6 students in the group had one or more suspension or expulsion before it would examine an LEA for significant disproportionality.\textsuperscript{199}

Relatively high minimum population requirements can improve the stability of discipline risk ratios. As with thresholds, however, in states with relatively small LEAs or LEAs with little racial diversity the requirements can be used to conceal discipline disparities by exempting LEAs from examination for significant disproportionality.\textsuperscript{200} For example, in selecting a minimum size for the target group, policy makers in Rhode Island observed that “'[u]sing a count as high as 10 would virtually eradicate disproportionality giving a free pass to multiple LEAs.”\textsuperscript{201}

One way to increase stability without excluding LEAs with relatively racially homogeneous enrollment from inquiry is to aggregate across LEAs. The alternative risk ratio (ARR) does this by comparing the discipline risk for a target group of students in an LEA

\textsuperscript{196} See Scott, supra note 168, at 36–37.

\textsuperscript{197} Id. at 36–38.

\textsuperscript{198} Id. at 38–39.

\textsuperscript{199} Id. at 37–38.

\textsuperscript{200} See Cavendish et al., supra note 160, at 4 (“'[T]he federal policy of attending to disproportionality solely through numerical formulas such as risk ratios allows states and LEAs to focus on technical or statistical issues surrounding disproportionality that in effect erase the structural and historical underpinnings of the problem.”).

to the discipline risk of the comparison group in the entire state (see Equation 4).\footnote{See Bollmer et al., supra note 167, at 23.}

\[
\text{ARR} = \frac{\left( \frac{\text{# of Target Students Receiving Discipline in LEA}}{\text{Total # of Target Students in LEA}} \right) \left( \frac{\text{# of Comparison Students Receiving Discipline in the State}}{\text{Total # of Comparison Students in the State}} \right)}{1 - \text{State Proportion of Students in LEA Risk Target}}
\]

In this way, risk ratios can be computed even for small LEAs or those with homogeneous student populations.\footnote{See id. at 32.}

In some sense, weighted risk ratios address the opposite issue: LEAs with students enrolled from a wide range of different racial and ethnic groups. When enrollment in LEAs consist of students from several different racial groups but the particular distribution of each of the racial groups differs between LEAs, the composition of the comparison group can cause risk ratios to differ for a target group even though the discipline risk for a student in that group remains the same.\footnote{See id at 32.} To illustrate take the first example LEA above. Enrollment in that LEA consisted of 200 black students with an OSS risk of .20 and 1,000 white students with an OSS risk of .10. Thus, if the LEA did not have students from other racial groups, it would have a black/non-black OSS risk ratio of 2. Compare this to two other LEAs that have 100 and 500 Asian students enrolled, respectively, which students had an OSS risk of .05 (5 or 25 of the Asian students, respectively, have at least one OSS). Although the OSS risks for black students in the LEAs are identical, because of the difference in composition, the black/non-black student discipline risk ratios for the two districts would be 2.1 and 2.4, respectively.

The weighted risk ratio adjusts for changes to the risk ratio caused by incremental differences in the racial composition of the comparison group by weighting each group consistently using its relative proportion of the state population (see Equation 5).\footnote{See 81 Fed. Reg. 92376, 92409 (Dec. 19,2016); Bollmer et al., supra note 167, at 23.}

\[
\text{WRR} = \frac{(1 - \text{State Proportion of Students in LEA Risk Target}) \text{LEA Risk Target}}{\sum \text{State Proportion of Students in Comparison LEA Risk Comparison}}
\]

Assuming that the proportion of black, white, and Asian students enrolled in the state was .15, .50, and .35, respectively, then the weighted black/non-black OSS risk ratio for both LEAs with Asian students would be 2.52 (see Equation 5a).
\[ 2.52 = \frac{(1-.15) .20}{(.50 \times .10) + (35 \times .05)} \quad (5a) \]

2. Incident-Based Measures

Risk-based measures of disproportionality are student-focused in that the information they provide relates to the extent to which students from different racial groups experience exclusionary discipline. Returning to the first example LEA, 40 of the 200 black students enrolled in schools in the LEA had at least one OSS in the academic year. The LEA thus has a black student OSS discipline risk of .20, or, equivalently, 20% of the Black students had one or more OSSs. That does not mean, however, that there were just 40 OSSs of black students. Indeed, if some or all of these 40 black students had more than one OSS in the year, it could be that there were 50, 100, 300, or more OSSs of black students. Thus, while risk-based measures provide information about the extent to which different students experience exclusionary discipline, they do not provide information about the total number of discipline incidents involving students from different racial groups.

One approaches for assessing the differences in race of students involved in all discipline incidents is to calculate the total number of discipline incidents per student (IPS) in each racial group (see Equation 6). \(^{206}\)

\[
\text{IPS} = \frac{\# \ of \ Discipline \ Incidents \ Involving \ Target \ Students}{\text{Total} \ # \ of \ Target \ Students} \quad (6)
\]

If, in the first example LEA, black students received a total of 80 OSSs in the year, then the OSSs per Black student would be 80/200 = .40.

Like discipline risks, discipline incidents per student for a target racial group can be compared to those for students in all other racial groups using either discipline incident differences or discipline incident ratios. \(^{207}\) In the example LEA, given that there were 1000 white students enrolled (and no students of other races), if there were 250 OSSs involving white students, then OSSs per white student would be 250/1000 = .25. The incident difference in OSSs per black and non-

---

207. See id. at 9.
black students would thus be .40 - .25 = .15, and the ratio of OSSs per black and non-black students .40/.25 = 1.6.

3. Composition Measures

Another alternative to risk-based measures of racial disparities, sometimes referred to as the composition approach, computes the proportion of total discipline events involving students from a particular racial group (Equation 7).^{208}

\[
\text{Composition} = \frac{\text{# of Target Students Receiving Discipline}}{\text{Total # of Students Receiving Discipline}}
\]

To illustrate with the example LEA, 40 black students and 100 white students in the LEA had one or more OSSs. Black students thus made up 40/140 = .29, or 29% of all students with one or more OSSs.

Like discipline risks and discipline incidents per student, composition scores for different groups can be compared to those of students from all other racial groups using either composition differences or composition ratios.^{209} States can set either an absolute threshold for significance or one that is relative to other or overall composition.^{210} An example of the latter approach for setting a relative composition threshold is the E-formula.

Originally created as a way to assess the significance of disproportionality in special education placement,^{211} the E-formula derives itself from the equation for the standard error of a proportion.^{212} Specifically, it produces a value, E, that is k standard errors above (or below) the proportion of students in an LEA from a particular racial

---

208. See 81 Fed. Reg. 10968, 10975; Bollmer et al., supra note 167, at 53.
209. See Bollmer et al., supra note 167, at 53.
210. See Office Special Educ. Programs, supra note 168, at 21 (detailing California’s 2-step process, one of which is using a competition threshold).
group given the total number of students who experience the disciplinary outcome in question, such as OSSs (see Equation 8).  

\[ E = \% \text{ in Group} \pm k \sqrt{\% \text{ in Group} \times \frac{(100 - \% \text{ in Group})}{\text{Total Students Disciplined}}} \]  

In the example LEA, above, black students represent 17% of the students enrolled \((A = 200/1,200)\) and the total number of students in the LEA that received one or more OSSs is \(N = 140\). Thus, if the state set the threshold at 1 standard error, \(k\), then the E-formula threshold for OSSs for black students would be 20% (see Equation 8a).

\[ 20\% = 17\% + 1 \sqrt{17\% \times \frac{100 - 17\%}{140}} \]  

If black students constituted more than 20% of OSSs in the LEA, this would indicate significant disproportionality.

In practice, states using the E-formula tended to select thresholds that represented more than one standard error above the base-line composition of students in the target group. For example, California and Rhode Island each required the proportion of students receiving discipline in a particular group in an LEA to exceed three standard errors in the current year and, for California, in at least two of the previous three years. Thus, if the example LEA were in either of these two states, the E-formula threshold for OSSs for Black students would be 27% (see Equation 8b).

\[ 27\% = 17\% + 3 \sqrt{17\% \times \frac{100 - 17\%}{140}} \]  

In the example LEA, black students constituted 29% of students receiving discipline. Because this exceeds 27%, if the same proportion persisted for the specified number of years, and any other state requirements were satisfied, then the example LEA would be identified as having significant disproportionality in a state using the E-formula with a threshold of 3 standard errors.

---

213. See 81 Fed. Reg. 10968, 10976; Bollmer et al., supra note 167, at 64.
214. Office Special Educ. Programs, supra note 168, at 21, 33; Scott, supra note 168, at 36, 38.
215. For example, California uses both the E-Formula and Alternate Risk Ratio. See Office Special Educ. Programs, supra note 168, at 21.
IV. The Current Approach to Assessing Racial Disparities Under the IDEA

The goal of the problem-identification approach under the IDEA is to determine which LEAs have racial discipline disparities that are sufficiently inconsistent with equal educational opportunity to indicate that use of a comprehensive problem evaluation and intervention implementation process should be legally required. Each of the different measures of racial disproportionality and approaches to establishing significance thresholds, discussed in Part II, provide information that is potentially relevant to identifying those LEAs. None of the measures or approaches, however, can provide all of the relevant information. From a methodological and public-policy standpoint, it is understandable that states may need to have some discretion to select measures that best fit their understanding of the core aspects of the problem as well as the practical limitations they may face in computing these measures. And, given these considerations, it is not surprising that states would adopt a variety of approaches for assessing significant disproportionality.

Unfortunately, as suggested above, the flexibility that comes with discretion to select methods that address particular issues also can be used by states to adopt methods in order to conceal, or otherwise avoid addressing, racial disparities.216 In 2013, the General Accountability Office (GAO) reported on the measures adopted by 16 states to assess significant disproportionality under the IDEA.217 It determined that, given the wide range of different measures states adopted, affording states discretion “hampered” the ability of the DOE to monitor compliance with the goals of the act.218 Moreover, there was evidence that many states exercised their discretion in a way that undermined the statutory goal of equal educational opportunity for students with disabilities by selecting measures or thresholds that, large racial difference in discipline outcomes notwithstanding, would result in the identification of few or no LEAs as having significant

217. See Scott, supra note 168, at 25.
disproportionality. In response, the DOE conducted its own review and found that, likely as a result of the methods adopted by the states rather than meaningful differences in racial disparities, in the 2012-13 school year, 22 states identified zero LEAs as having significant disproportionality and that 75% of LEAs that were identified were located in just seven states.

A. Adoption of a Standard Methodology

Based on the studies, following notice and comment, in 2016, the DOE promulgated a standard methodology for determining significant disproportionality. The standard methodology was designed to balance the DOE’s need for sufficient structure to enable it to monitor compliance and ensure that methods were meeting, rather than undermining, the goals of the IDEA with states’ need for flexibility to account for different circumstances. For the former interest, implementation regulations were amended to require states to assess significant disproportionality using risk ratios or, when not possible, the alternate risk ratio. For the latter interest, states could still set their own requirements for calculating the risk ratio, significance thresholds, and temporal requirements for significance. The amended regulations, however, limited their discretion and subjected state decisions to compliance review.

219. See Scott, supra note 168, at18–22 (“For example, when Education concluded that Alaska’s definition made it unlikely that any districts would be identified, it did not require the state to change its definition but suggested only that Alaska reexamine its definition.”); Natasha M. Strassfeld, The Future of IDEA: Monitoring Disproportionate Representation of Minority Students in Special Education and Intentional Discrimination Claims, 67 Case Western Res. L. Rev. 1121,1125–26 (2017); Cavendish et al., supra note 160, at 4.
225. 34 C.F.R. § 300.646(b)–(c).
States, in their discretion, may set reasonable minimum required student populations for the target group (cell sizes) and comparison group (n-sizes) for risk calculations. As guidance, the regulations indicate that minimum cell sizes of 10 or less and minimum n-sizes of 30 or less are “presumptively reasonable.” Similarly, states may select their own thresholds for significance; however, they must do so through a process that involves stakeholder input and the final threshold must be reasonable. Finally, states have the flexibility to require an LEA to have to exceed the threshold for up to three consecutive years in order to be considered to have significant disproportionality. And they may decide not to identify LEAs that exceed the threshold as having significant disproportionality if the LEAs are making reasonable progress on their own at reducing the racial disparities.

In contrast to the explicit guidance given for minimum population sizes, the DOE did not provide explicit guidance in the amended regulations as to the considerations that it would take into account in determining the reasonableness of the thresholds selected by the states. In its notice of proposed rulemaking, however, the DOE indicated that it would be unreasonable for a state to set a risk ratio threshold in order to limit the number of LEAs identified as having significant disproportionality so that the state could thereby avoid having to evaluate them for potential problems, to implement comprehensive interventions, and to reserve funds under the IDEA for those purposes. This does not mean that states will necessarily be found to have an unreasonable definition of significant disproportionality merely because they identify no LEAs as meeting the threshold they set. Rather, the DOE would view identification of

226. 34 C.F.R. § 300.647(b)(1)(i)(B)-(C); see also Off. Special Educ. Programs, supra note 155, at 10–11.
227. 34 C.F.R. § 300.647(b)(1)(iv); Off. Special Educ. Programs, supra note 155, at 11.
228. See 34 C.F.R. § 300.647(b)(1)(iii).
229. 34 C.F.R. § 300.647(d)(1).
230. § 300.647(d)(2).
231. See 34 C.F.R. § 300.647(b)(1)(i)(A) (“The State must set[] a reasonable risk ratio threshold[,]”).
233. See id.
no LEAs as having significant disproportionality as an indication that the threshold is unreasonable if (1) risk ratios indicate that there is overrepresentation of students from a particular racial group in discipline in some LEAs in that state and (2) the magnitude of racial disproportionality in those LEAs is sufficiently high such that they are outliers nationally.234

A common definition of outliers in research is the 5% of observations with the most extreme values.235 For populations that are normally distributed (that is, which follow a bell-shaped curve), this is the equivalent of the observations that fall more than approximately two standard deviations either above or below the average.236 Consistent with this approach, in the notice of proposed rulemaking237 and its study of state thresholds,238 the DOE defined outliers as those LEAs that had risk ratios exceeding two median absolute deviations (MADs) above the median of all LEA risk ratios (see Equation 9).239

---

234. See id.
236. Id. at 5.
239. The MAD is used to detect outliers because, for symmetrical distributions, it estimates the standard deviation of a population in a way that is not as influenced by potential outliers in a sample as the sample standard deviation itself. See e.g., Peter Rosenman, Using the Median Absolute Deviation to Find Outliers, EURKA STAT. (Nov. 25, 2013), https://eurekastatistics.com/using-the-median-absolute-deviation-to-find-outliers/; see also BORIS IGLEWICZ & DAVID C. HOAGLIN, HOW TO DETECT AND HANDLE OUTLIERS 11, 23 (1993); Christophe Leys et al., Detecting Outliers: Do Not Use Standard Deviation Around the Mean, Use Absolute Deviation Around the Median, 49 J. EXPERIMENTAL SOC. PSYCHOL. 764, 764–65 (2013). More particularly, a MAD is defined as the median of the absolute values of the differences between each observation and the median of all observations. See Rosenman, supra. When rescaled using a consistency constant (CC), it becomes a robust estimator of the population standard deviation in populations that are symmetrically distributed:

\[ \text{MAD} = CC \times \text{Median}(|\text{Each \, LEA's \, RR} - \text{Median(All \, LEAs' \, RRs)}|) \]
Threshold = Median(All LEAs' RR) + 2 x MAD(All LEAs' RR) \hspace{1cm} (9)

Given its use in the illustrations and analyses, the DOE thus presumably considers a threshold of two MADs to be a reasonable approach for identifying LEAs with significant disproportionality.

B. Critiques of the Standard Methodology

The studies by the GAO and DOE suggested that the flexibility afforded to states resulted in a national problem-identification process that was difficult to evaluate and, in many instances, caused systematic

---

See id. The most common, and even default, consistency constant, CC = 1.4826, is the reciprocal of the value corresponding to the 75th percentile of the observations in a standard normal distribution and thus is appropriate when the population observations are normally distributed. See id. Where the distribution of the observations is symmetrical but not normally distributed, the appropriate consistency constant can be calculated as the reciprocal of the 75th percentile of the standardized observations in the sample (i.e., 1/75th percentile of the observations after they have been converted to z-scores). See, e.g., id.

Where the underlying distribution is not symmetrical, the MAD does not necessarily approximate the standard deviation in the population, even with the consistency constant. See Peter J. Rousseeuw & Christophe Croux, Alternatives to the Median Absolute Deviation, 88 J. Am. Stat. Ass’n 1273, 1273–74 (1993). This issue impacts risk ratios, which have a skewed distribution. More robust alternatives, such as specific quantile thresholds for LEA RR, are available. Id.

Methodological issues like how to determine an appropriate consistency constant, which it used, or whether to consider more robust alternatives were not addressed by the DOE in the explanation of its analyses. See generally 81 Fed. Reg. 10968, 10983 (Mar. 2, 2016); OFF. SPECIAL EDUC. & REHABILITATIVE SERVICES, U.S. DEP’T EDUC., RACIAL AND ETHNIC DISPARITIES IN SPECIAL EDUCATION: A MULTI-YEAR DISPROPORTIONALITY ANALYSIS BY STATE, ANALYSIS CATEGORY, AND RACE/ETHNICITY 4 (Feb. 2016), https://www2.ed.gov/programs/osepidea/618-data/LEA-racial-ethnic-disparities-tables/disproportionality-analysis-by-state-analysis-category.pdf. The lack of clarity is itself problematic because these methodological decisions can have a substantial impact on the results. Table B1 in Methodological Appendix B, for example, uses CRDC for the 2013-2014 and 2015-2016 school years to illustrate the differences in thresholds for 2 MADs depending upon the consistency constant that is used and the corresponding number of LEAs that would exceed a threshold in each year and both years (see Section II.B.2.a, infra, and Table 3 for more information). Any confusion and inconsistency in how to calculate or apply presumptively reasonable thresholds could undermine the primary goals of the standard methodology.
under-identification of LEAs. The flexibility thus ultimately undermined the effectiveness of the IDEA’s problem-solving approach to addressing racial disparities in discipline. More consistency and accountability were needed. The standard methodology attempts to balance this need while allowing states some flexibility to tailor their assessment to their specific needs. Not everyone, however, is supportive of the change.

From the outset, commenters critiqued the amended regulations on a variety of grounds. Two sets of these critiques directly address the utility of a national problem-solving approach for anti-discrimination law and the viability of the IDEAs approach as a template for effectively addressing racial disparities in discipline. First, the critiques raise legal concerns regarding whether the approach violates anti-discrimination law. And second, there are methodological concerns as to whether the standard methodology actually facilitates problem identification.

240. See Scott, supra note 168, at 18–22 (“For example, when Education concluded that Alaska’s definition made it unlikely that any districts would be identified, it did not require the state to change its definition but suggested only that Alaska reexamine its definition.”); Natasha M. Strassfeld, The Future of IDEA: Monitoring Disproportionate Representation of Minority Students in Special Education and Intentional Discrimination Claims, 67 Case Western Res. L. Rev. 1121,1125–26 (2017); Cavendish et al., supra note 160, at 4.

241. Aside from critique raised during the notice and comment period, before regulations containing the standard methodology could go into effect, the DOE under the Trump administration changed its position and promulgated a regulation delaying the implementation of the standard methodology. 83 Fed. Reg. 31306, 31306 (July 3, 2018). This decision was based, in part, on a desire to evaluate further whether LEAs may be adopting de facto racial quotas in violation of federal anti-discrimination law. Id. at 31307. The delaying regulation was challenged in federal court and ultimately vacated as having been implemented without adequate support in the record and through a process that was arbitrary and capricious, allowing the standard methodology to go into effect. See Council of Parent Attorneys & Advocates, Inc. v. DeVos, 365 F. Supp. 3d 28, 55–56 (D.D.C. 2019).


244. See 81 Fed. Reg. 92376, 92405, 92411.
1. Under What Circumstances Might Interventions Under a Comprehensive, Problem-Solving Approach to Addressing Racial Discipline Disparities Violate Anti-Discrimination Law?

Among the main concerns regarding the standard methodology is that tying identification of significant disproportionality in LEAs to the discipline risk ratio will encourage states and LEAs to adopt racial quotas or, at the extreme, operate as a de facto requirement that they do so.\textsuperscript{245} In establishing the standard methodology, the DOE acknowledged but initially rejected this concern.\textsuperscript{246} LEAs may not want to have to focus on addressing their racial disparities or to divert federal funding to support those efforts. Problem identification, however, is designed to initiate and support problem solving, not act as a punishment. Further, nothing in the regulations promulgating the standard methodology requires quotas.\textsuperscript{247} Even so, any effort to move anti-discrimination law to a more comprehensive, problem-solving approach will need to take into account legal limitations on what can be done to correct racial disparities.

In theory, as described in Section I.D, disparate treatment and disparate impact approaches serve as complimentary legal tools for addressing impermissible race discrimination. In practice, however, race-based remedies for disparate impacts can constitute disparate treatment in violation of provisions like those in the equal protection clause. In the words of the Supreme Court:

[W]hen courts do find liability under a disparate-impact theory, their remedial orders must be consistent with the Constitution. Remedial orders in disparate-impact cases should concentrate on the elimination of the offending practice, and courts should strive to design race-neutral remedies. Remedial orders that impose racial targets or quotas might raise difficult constitutional questions.\textsuperscript{248}

\textsuperscript{245} See, e.g., 81 Fed. Reg. 92376, 92385.

\textsuperscript{246} Id. at 92385 (“[N]othing in these regulations establishes or authorizes the use of racial or ethnic quotas limiting a child’s access to special education and related services, nor do they restrict the ability of IEP Teams to appropriately identify and place children with disabilities.”); see also OFF. SPECIAL EDUC. PROGRAMS, supra note 155, at 6–7.

\textsuperscript{247} See 81 Fed. Reg. 92376, 92385, 92393.

What, then, are the limits disparate treatment might present for comprehensive interventions resulting from a problem-solving approach?

a. Ricci v. DeStefano

In Ricci v. DeStefano, the Supreme Court considered the extent to which disparate treatment doctrine limits the ability to remedy disparate impacts in employment decisions.\(^{249}\) There, the city of New Haven, Connecticut, hired a consulting firm to develop and administer examinations to select which firefighters would be eligible for promotion.\(^{250}\) When the results of the test were computed, pass rates, shown in Table 1, differed by the race and ethnicity of the examinee to indicate potential adverse impact under the 4/5ths rule, implicating a potential Title VII violation.\(^{251}\)

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lieutenant Exam</strong></td>
</tr>
<tr>
<td>Took Exam</td>
</tr>
<tr>
<td><strong>White</strong></td>
</tr>
<tr>
<td><strong>Black</strong></td>
</tr>
<tr>
<td><strong>Hispanic</strong></td>
</tr>
</tbody>
</table>

*Notes: IR = Impact Ratio, discussed in Section I.D, supra.*

Ultimately, following several hearings on the disparities, the city’s Civil Service Board decided not to certify the results of the exam.\(^{252}\) The board members who voted against certification cited discomfort with the racial disparities in the examination results and testimony that a less discriminatory examination could be developed.\(^{253}\)

After the vote, 17 white and 1 Hispanic firefighters who had passed the exam and would thus have been eligible for promotion filed a claim against the city and city officials under Title VII and the Equal Protection Clause of the Fourteenth Amendment for disparate

\(^{249}\) See 557 U.S. 557, 563 (2009).

\(^{250}\) Id. at 564.

\(^{251}\) Id. at 566–67, 86–87.

\(^{252}\) Id. at 574.

\(^{253}\) Id.
treatment in discarding the results of the examinations. They argued that the city’s certification decision, which negatively impacted their chance of promotion, was motivated by their race. In the words of the Court, “Whatever the City’s ultimate aim—however well-intentioned or benevolent it might have seemed—the City made its employment decision because of race. The City rejected the test results solely because the higher scoring candidates were white.”

On appeal, the Supreme Court addressed whether it was permissible to use explicit racial criteria to make decisions that adversely impacted members of one racial group (e.g., white individuals) in order to remedy potential disparate impacts against members of another racial group (e.g., black individuals). In deciding the issue, the Court identified several core principles. The first is a need to define the scope of potential remedies that disparate treatment doctrine may utilize in light of a core goal of Title VII: “[T]hat the workplace be an environment free of discrimination, where race is not a barrier to opportunity.” The second principle is judicial economy and the importance of protecting the strong public policy favoring flexibility in voluntary efforts by employers to redress racial discrimination without need for judicial intervention. And third, the Court considered the “legitimate expectations” of employees who invest time and effort in reliance on high-stakes employment policies and practices, such as promotion examinations.

254. Id. at 574–75.
255. Id. at 575.
256. Id. at 579–80.
257. Id. at 580.
258. Id. ("Courts often confront cases in which statutes and principles point in different directions. Our task is to provide guidance to employers and courts for situations when these two prohibitions could be in conflict absent a rule to reconcile them. In providing this guidance our decision must be consistent with the important purpose of Title VII—that the workplace be an environment free of discrimination, where race is not a barrier to opportunity.").
259. Id.
260. Id. at 580–84; see also Local No. 93, Int’l Ass’n of Firefighters, AFL-CIO C.L.C. v. City of Cleveland, 478 U.S. 501, 515 (1986) (“We have on numerous occasions recognized that Congress intended voluntary compliance to be the preferred means of achieving the objectives of Title VII.”), 29 C.F.R. § 1608.3 (2019) (Circumstances under which voluntary affirmative action is appropriate).
261. Id. at 583–84
To strike a balance in light of these principles, the Court looked to the exception to disparate treatment under the Equal Protection Clause for race-based remedies, the need for which have a have a “strong basis in evidence.” Government officials may use an individual’s race to make a decision so long as they can show that doing so is “narrowly tailored to further compelling governmental interests” or where a “strong basis in evidence” necessitates race-based actions to remedy past racial discrimination. Applied to the Title VII context, the Court held that employers are free to consider “how to design that test or practice in order to provide a fair opportunity for all individuals, regardless of their race.” Once the policies or practices are implemented and utilized to make decisions about particular individuals, however, employers may not invalidate the decisions based on the racial distribution of the outcomes unless the employers have a strong basis in evidence to conclude that a failure to do so will itself constitute a prohibited disparate impact. Thus, as with a disparate impact analysis itself, employers seeking to avoid disparate treatment liability when crafting their own remedy for potential disparate impacts must look for statistical evidence of racially adverse impact. Further, when statistical analysis indicates an adverse impact, employers must “take a hard look” to determine whether the outcomes are attributable to actual differences of the applicants in job-related abilities and to the availability of equally valid,


264. Ricci, 557 U.S. at 582 (citing Richmond v. J.A. Croson Co., 488 U.S. 469, 500 (1989) (quoting Wygant v. Jackson Bd. of Educ., 476 U.S. 267, 277 (1986) (plurality opinion))); see also Fisher, 570 U.S. at 317 (Thomas, J., concurring). Title VII contains a similar defense for when status as a member of a protected class is a “bona fide occupational qualification,” however, the defense is limited to religion, sex, or national origin, and does not extend to race. See Ferril v. Parker Grp., Inc., 168 F.3d 468, 473 (11th Cir. 1999) (citing 42 U.S.C. § 2000e-2(e)(1)).

265. Ricci, 557 U.S. at 585.

266. Id.

267. Id. at 585–87.
less discriminatory alternative approaches. Applying this standard, the Court held that the city failed to satisfy their obligations because they ignored evidence that the examination constituted a valid assessment of job related skills and failed to produce evidence that a less discriminatory alternative was available.

b. Parents Involved in Community Schools v. Seattle School Dist. No. 1

In the educational context, Parents Involved in Community Schools v. Seattle School Dist. No. 1 presented a similar issue of the legality of voluntary use of race in selection decisions in order to voluntarily redress racial disparities in enrollment. The case involved an Equal Protection challenge to a school assignment policy in Seattle, Washington. As part of its efforts to increase the racial diversity of the schools, from 1998 to 2002, the Seattle school district adopted an open enrollment policy. Under the policy, students could seek to enroll in any school. If the number of students selecting a high school exceeded the available capacity in that school, however, then the district used four steps to select among those seeking enrollment.

---

268. See id. at 587 (“Based on the degree of adverse impact reflected in the results, respondents were compelled to take a hard look at the examinations to determine whether certifying the results would have had an impermissible disparate impact.”).

269. See id. at 5 92 (“On the record before us, there is no genuine dispute that the City lacked a strong basis in evidence to believe it would face disparate-impact liability if it certified the examination results. In other words, there is no evidence—let alone the required strong basis in evidence—that the tests were flawed because they were not job-related or because other, equally valid and less discriminatory tests were available to the City.”).


271. See id. at 709–11. The Supreme Court consolidated the appeal with a case presenting a similar issue regarding use of race in enrollment in Louisville, Kentucky. Id. at 709–11. For simplicity, only the Seattle facts are discussed here.


273. Id. at 1169.

274. Id.
students seeking admission in the following order: (1) students who had siblings enrolled in the school; (2) students who were members of a race underrepresented in the school; and (3) students who lived closer to the school.\textsuperscript{275} Although rarely needed, the final step involved selection by lottery.\textsuperscript{276}

Under the policy, schools assessed racial imbalance (RI) by using a composition-based approach (see part \textsuperscript{277}, above), consisting of the difference between the proportion of non-white or white students enrolled in the school and that of the proportion of those in Seattle public schools generally.\textsuperscript{277}

$$\text{NonWhite RI} = \frac{\text{Nonwhite School Enrollment}}{\text{Total School Enrollment}} - \frac{\text{Nonwhite District Enrollment}}{\text{Total District Enrollment}}$$

$$\text{White RI} = \frac{\text{White School Enrollment}}{\text{Total School Enrollment}} - \frac{\text{White District Enrollment}}{\text{Total District Enrollment}}$$

Schools with an absolute difference exceeding 10\% (or 15\%, depending on the academic year) for either non-white or white students were deemed to have a sufficiently large imbalance to merit intervention.\textsuperscript{278} The preference for applicants from the underrepresented racial category was used in admissions decisions for those schools.\textsuperscript{279}

In the 2000–2001 school year, for example, about 41\% of the students enrolled in the district were white and 59\% were non-white.\textsuperscript{280} Thus, schools would be deemed racially imbalanced for non-white students if their enrollment of non-white students was less than 49\%\textsuperscript{281} and racially imbalanced for white students if their enrollment of white students was less than 31\%.\textsuperscript{282} In the 2000–2001 year, four high schools with enrollment applications that exceeded their capacity for incoming students were found to have racial imbalances over their

\textsuperscript{275} Id. at 1169–71.
\textsuperscript{276} Id. at 1171.
\textsuperscript{278} Id. at 712, 712 n.3.
\textsuperscript{279} Id. at 712.
\textsuperscript{280} Id.
\textsuperscript{281} See id. Or, equivalently, a White enrollment of greater than 51\%.
\textsuperscript{282} See id. Or, equivalently, a non-White enrollment of greater than 69\%. 
threshold.\textsuperscript{283} As a result, the schools resorted to racial admission preferences to select students.\textsuperscript{284}

Table 2 indicates the estimated enrollment without the racial preference, RI scores, and enrollment after application of the racial preference for the four schools.\textsuperscript{285}

<table>
<thead>
<tr>
<th></th>
<th>Estimated School Enrollment Without Racial Preference</th>
<th>RI Scores</th>
<th>Actual School Enrollment with Racial Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>Non-White</td>
<td>White</td>
</tr>
<tr>
<td>Franklin</td>
<td>20.8%</td>
<td>79.2%</td>
<td>20.2\textsuperscript{W}</td>
</tr>
<tr>
<td>Nathan</td>
<td>69.5%</td>
<td>30.5%</td>
<td>28.5\textsuperscript{NW}</td>
</tr>
<tr>
<td>Hale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ballard</td>
<td>67.0%</td>
<td>33.0%</td>
<td>26.0\textsuperscript{NW}</td>
</tr>
<tr>
<td>Roosevelt</td>
<td>58.9%</td>
<td>41.1%</td>
<td>17.9\textsuperscript{NW}</td>
</tr>
</tbody>
</table>

Note: RI superscripts indicate which racial group was found to be underrepresented: \textit{W} = White, \textit{NW} = Non-White.

Parents of children denied admission to the schools as a result of the racial preference challenged the policy on various grounds, including disparate treatment under the Equal Protection Clause.\textsuperscript{286} As noted above, explicit use of race as a criterion is generally a prima facie violation of disparate treatment.\textsuperscript{287} The Supreme Court addressed whether Seattle’s policy of using student race in order to address \textit{de facto} racial imbalance resulting from its admissions policies was narrowly tailored to achieve a compelling government interest.\textsuperscript{288}

\textsuperscript{283} See id. at 712–13.
\textsuperscript{284} Id. at 713.
\textsuperscript{287} See Section II.D, supra.
\textsuperscript{288} Id. at 720. The majority concluded that the racial disparities at issue in the case were the result of \textit{de facto} racial segregation caused primarily by racial housing patterns and a historical policy of enrolling students based exclusively on the neighborhood in which they lived. See id. at 712. The \textit{de facto}/\textit{de jure} distinction made by the majority is another illustration of the limited scope anti-discrimination law (see Section I.D, supra) in that the conclusion that purposeful discrimination in
In its decision, the Court explained that it had only recognized two compelling government interests in the education context: remedying past, race-based discrimination stemming from de jure segregation\(^{289}\) and achieving diversity in higher education.\(^{290}\) By comparison, the goal of achieving a particular racial distribution for its own sake is “patently unconstitutional.”\(^{291}\) Focusing on the diversity interest (Seattle schools were not directly segregated by law),\(^{292}\) the Court explained that the approaches for achieving diversity in higher education that passed Constitutional muster did not use racial quotas or make race a determinative factor for admission.\(^{293}\) Instead, these

legal policy did not produce racial disparities in enrollment it is not accurate unless the inquiry is limited to whether it was purposeful discrimination in the current enrollment plan itself that produced the disparities. Indeed, as noted by the dissent, a substantial body of evidence in the record documented how the Seattle School Board had historically adopted policies that facilitated racially discriminatory enrollment in Seattle public schools. See id. at 806–08 (Breyer J., dissenting). Further, as a factual matter, racial segregation in housing patterns in Seattle, and many other cities, are themselves attributable to the historical use of racially restrictive covenants. See Racial Restrictive Covenants: Neighborhood by Neighborhood Restrictions Across King County, THE SEATTLE C.R. & LAB. HIST. PROJECT, http://depts.washington.edu/civilr/covenants.htm (last visited Mar. 19, 2020); Mapping Inequality: Redlining in New Deal America, https://dsl.richmond.edu/panorama/redlining/?loc=11/47.58/-122.398&city=seattle-wa (last visited Apr. 6, 2020) (interactive map with links to scans of “red lining” reports, often based on the racial composition of a neighborhood, that were prepared by the federal government between 1935 and 1940 for use by lenders in determining whether people buying homes in the neighborhood were eligible for a mortgage); see also Terry Gross, A ‘Forgotten History’ Of How The U.S. Government Segregated America, NPR (May 3, 2017), https://www.npr.org/2017/05/03/526655831/a-forgotten-history-of-how-the-u-s-government-segregated-america.

289. Parents Involved in Cnty. Sch., 551 U.S. at 720–21 (“We have emphasized that the harm being remedied by mandatory desegregation plans is the harm that is traceable to segregation, and that ‘the Constitution is not violated by racial imbalance in the schools, without more.’” (quoting Milliken v. Bradley, 433 U.S. 267, 280 n.14 (1977))).


291. Id. at 723 (quoting Grutter, 539 U.S. at 330).

292. Id. at 720.

293. See id. at 722–724; see also Regents of Univ. of California v. Bakke, 438 U.S. 265, 307 (1978) (“If petitioner’s purpose is to assure within its student body some specified percentage of a particular group merely because of its race or ethnic
policies used race as one of many factors related to diversity considered in a holistic review, none of which dictated admission decisions.\textsuperscript{294} To the extent Seattle’s school admission plan was supposed to further diversity and help achieve increased educational and social achievement associated with it, the Court found that it failed on both counts.\textsuperscript{295} Notwithstanding some general verbiage from the school board, the Court found it evident that Seattle’s concern regarding lack of diversity ultimately meant racial diversity, not holistic diversity.\textsuperscript{296} For example, the admissions policy developed to foster more racially diverse schools distinguished only between white and non-white students:

[U]nder the Seattle plan, a school with 50 percent Asian–American students and 50 percent white students but no African–American, Native–American, or Latino students would qualify as balanced, while a school with 30 percent Asian–American, 25 percent African–American, 25 percent Latino, and 20 percent white students would not. It is hard to understand how a plan that could allow these results can be viewed as being concerned with achieving enrollment that is “broadly diverse.”\textsuperscript{297}

In operation, it was thus possible for the policy to actually undermine diversity. As a result, the Court found that the policy was not narrowly tailored to achieve that interest.\textsuperscript{298} Further, because the plan indexed school diversity goals to the general population rather than evidence of what amount of diversity was necessary to achieve alleged pedagogical benefits of diversity, the plan appeared to be designed to achieve racial balance for its own sake rather than as a way to achieve diversity in furtherance of a compelling interest such as educational benefit.\textsuperscript{299} Given this, and the failure of the district to show that it considered non-race-based alternatives,\textsuperscript{300} the Court held that

\begin{flushleft}
origin, such a preferential purpose must be rejected not as insubstantial but as facially invalid. Preferring members of any one group for no reason other than race or ethnic origin is discrimination for its own sake. This the Constitution forbids.”).\textsuperscript{294} See id. 723; see also Grutter, 539 U.S. at 334–35.\textsuperscript{295} Id. at 727,733.\textsuperscript{296} See id. at 724–726.\textsuperscript{297} Id. at 724.\textsuperscript{298} Id. at 735.\textsuperscript{299} Id. at 726–27.\textsuperscript{300} Id. at 735.
\end{flushleft}
Seattle’s policy did not qualify for one of the disparate treatment exceptions under the Equal Protection clause and was thus unconstitutional.301

c. Heyne v. Metropolitan Nashville Public Schools

As a final example, in Heyne v. Metropolitan Nashville Public Schools, the Sixth Circuit Court of Appeals addressed the constitutionality of a decision to suspend the plaintiff that was alleged to have been influenced by an informal discipline policy of treating non-black students less favorably than black students in order to correct for racial discipline disparities.302 According to the allegations in the Complaint,303 discipline records maintained by the school district indicated that there were “too many African–Americans students serving in-school suspension” at one of the high schools in the district.304 In response, the principal of the high school instructed his staff to “be more lenient in enforcing the Code of Conduct against African–American students.”305

Sometime thereafter, an incident occurred between two students after school.306 One student, the Plaintiff, who was white, inadvertently hit another, identified as D.A., who was black, with his car.307 The impact knocked D.A. to the ground and may have injured his leg.308 D.A. got up and responded by threatening to kill the Plaintiff.309 Thereafter, D.A. and his friends reported the incident to the principal.310 The principal initially allowed the Plaintiff to return to school, and D.A. was not subject to discipline for the threat to the

301. Id. at 747–48.
302. 655 F.3d 556, 568 (6th Cir. 2011).
303. Appeal was from denial of a motion to dismiss, so the facts alleged in the Complaint were presumed to be true. Id. at 562 (“We apply the ordinary standard used in reviewing motions to dismiss, accepting well-pled factual allegations as true.”).
304. Id. at 560.
305. Id.
306. Id. at 559.
307. Id.
308. Id.
309. Id.
310. Id. at 560.
Plaintiff.\textsuperscript{311} Events further escalated, however, and ultimately the principal, at the direction of the discipline coordinator for the district, charged the Plaintiff with three violations of the student conduct code, including reckless endangerment, and suspended him for ten days.\textsuperscript{312} The Plaintiff challenged his suspension.\textsuperscript{313} At a hearing in front of the districts’ independent disciplinary board, the board upheld the ten-day suspension for reckless endangerment but dismissed the other conduct code violations.\textsuperscript{314} Plaintiff sued the district, school, and school officials claiming that Defendants violated his rights under the Equal Protection clause by escalating his punishment in order to appear stricter with white students and avoid claims of racial bias.\textsuperscript{315} The Defendants moved to dismiss.\textsuperscript{316} The Court denied the motion, finding that the allegations constituted a plausible claim for disparate treatment and that the school and district officials should have known the alleged conduct violated the Equal Protection clause.\textsuperscript{317} On appeal the Sixth Circuit observed that “[s]chool officials violate the Equal Protection Clause when they punish a student more severely for his conduct than other students because of the student’s race.”\textsuperscript{318} Applying this doctrine to the facts alleged, the court found that, if true, the informal policy of treating black students more favorably constituted disparate treatment by the principal and the district discipline coordinator who had instructed the principal to suspend the Plaintiff.\textsuperscript{319}

\textsuperscript{311} Id. 
\textsuperscript{312} Id.  
\textsuperscript{313} See id.  
\textsuperscript{314} Id.  
\textsuperscript{315} See id. at 561, 570–71.  
\textsuperscript{316} Id. at 561.  
\textsuperscript{318} Heyne v. Metro. Nashville Pub. Sch., 655 F.3d 556, 571 (6th Cir. 2011) (citing Buchanan v. City of Bolivar, 99 F.3d 1352,1360 (6th Cir. 1996)).  
\textsuperscript{319} See id. at 572. The court reversed the district court’s denial of motions to dismiss by other district officials, including members of the hearing board, holding that the facts alleged did not indicate that they also had taken race into account during their reviews. Id.
d. Application of the Legal Limitations to Problem-Solving Approaches

Legal frameworks that adopt a problem-solving approach for addressing race discrimination will likely be more effective than standard anti-discrimination approaches because of their constructive (rather than punitive) orientation, wider breadth of inquiry concerning causal factors, and more comprehensive range of interventions. These beneficial qualities may also make problem-solving approaches less likely than the disparate impact doctrine to prompt LEAs to adopt unconstitutional, race-based remedies like quotas because problem-solving approaches have more potential to inspire integrative solutions.

Conflict management theory distinguishes between zero-sum disputes and those with integrative potential.320 In a zero-sum conflict, any gain to one party results in a corresponding loss to the other. By comparison, conflicts with integrative potential are those in which there are potential outcomes that, when compared to compromise solutions (e.g., where the parties simply split the difference), produce additional gains for both parties.321 The existence of integrative potential notwithstanding, a substantial body of research suggests that people tend to have fixed-pie perceptions; that is, as a default, they tend to perceive issues as representing zero-sum tradeoffs and interpret information in ways that confirm this.322 In doing so, they underestimate the potential for integrative solutions and often fail to seek, or even to ignore, information that would indicate that the interests of the parties are aligned.323 When faced with disputes involving multiple factors, for example, even experienced negotiators frequently fail to see where they and the other party would prefer the exact same outcomes.324 A common solution for fixed-pie perceptions is for people working to consider a broad range of factors

321. See Thompson, supra note 320, at 839.
322. See id. at 839–40.
323. See id. at 840.
324. See id. at 839.
simultaneously, rather than focusing on one at a time, and adopt a goal of finding solutions that benefit everyone.\textsuperscript{325}

As discussed in Part I, disparate treatment and disparate impact doctrines focus on a discrete set of causes of racial disparities, such as prototypically racist acts or policies, that must be rooted out. An unintended consequence of the narrow focus in the context of school discipline may be to encourage fixed-pie perceptions by constraining construal of the problem of racial disparities as one that can only be solved through zero-sum tradeoffs between order and disorder, white students and black students, or increased academic achievement and legal liability. Within the confines of this understanding, if the racist acts or discriminatory policies are not obvious or if efforts to address them fail, then the only apparent option for LEAs seeking to avoid liability is to “fix the books” by making sure discipline numbers are such that they do not draw additional scrutiny. And, disparate treatment liability notwithstanding, there may be a strong temptation for LEAs to do so. For LEAs that believe they are between a rock and a hard place, the choice of which ultimately crushes them is largely a matter of personal preference.

Consistent with conflict management theory and practice, the requirement that LEAs use a problem-solving approach may resolve this perceived dilemma by providing a process that encourages construal of racial discipline disparities as having integrative potential. Numerous potential interventions—increasing use of engaging instruction; explicitly defining and positively supporting adherence to behavioral expectations; use of instructional responses; incorporating social-emotional learning; and equipping students with the skills necessary to build, maintain, and repair relationships—target likely causes of racial disparities and improve the learning environment to the benefit all students.\textsuperscript{326}

Notwithstanding the potential advantages, problem-identification under a legal problem-solving approach would not be limited to just locating LEAs with racial disparities that are the direct


\textsuperscript{326} See supra Section II.A.
result of past or present purposeful discrimination. Interventions implemented under the approach will thus not always fit squarely under the most common exception to disparate treatment. To ensure compliance with the Constitution, Title VI, and other sources of anti-discrimination law, race-based interventions should be avoided. When they are considered, such interventions should be carefully examined to ensure that they are necessary and narrowly tailored to a specific barrier to realization of equal educational opportunity.

2. Does the Standard Methodology Identify Leas with the Most Problematic Racial Discipline Disparities?

A second set of concerns relates to whether the standard methodology effectively identifies the LEAs with levels of racial discipline disparities that are the most significant. At some level, every approach to problem-identification represents a tradeoff between pragmatic concerns, such as efficiency and the costs of use, and the accuracy with which the measures used identify those that need the most support to achieve the underlying goal, and thus where problem evaluation and intervention is most likely to have the greatest benefit. Methodologically, this is often referred to as the reliability and the validity of, or the nature of error in, the measures used for problem identification.327

In general, reliability and validity represent the ability of a measure to consistently provide information relevant to the decision that the measure is intended to inform.328 Measures with poor reliability provide information that is too inconsistent, or contain too much random noise, to be useful in problem identification.329 Measures with poor validity provide information that is not relevant to

328. See Saad et al., supra note 327, at 21.
329. See id. at 22.
the key considerations being used to evaluate and remedy the problem. Because random noise, by definition, does not provide pertinent information, measures must be reliable to be valid. High reliability, however, does not guarantee validity.

In the context of racial disparities in discipline, measures with good reliability and validity would accurately identify all LEAs not meeting the defined goals, for which problem evaluation and intervention would be both effective and beneficial. Moreover, they would not identify any LEAs that did not meet these criteria. Measures rarely perform this well. Instead, most measures tend to either over identify or under identify individuals with potential problems. In diagnostic theory, these different types of errors relate to the sensitivity and specificity of a measure. Sensitivity, or the true positive rate, relates to the ability of a measure to identify all of the individuals that have the specified problem. Specificity, or the true negative rate, represents the ability of the measure to correctly rule out individuals that do not have the problem.

In general, measures with high sensitivity tend to have low specificity because they accept false positives (erroneously identifying individuals that do not have the problem) as a cost of ensuring that they identify the individuals with the problem. Conversely, measures

---

331. See id. at 26. More particularly, reliability is necessary, but not sufficient, for validity in that reliability acts as a ceiling on validity – a measure can only be as valid as it is reliable. J.M. Etchebarry & Wayne Fischer, Survey Research: Be Careful Where You Step...., 15 QUALITY SAFE HEALTHCARE 154, 154 (2006); PRICE ET AL., supra note 327, at 92.
332. See SAA ET AL., supra note 327, at 26.
335. See id.
336. See Akobeng, supra note 334, at 339. This tradeoff is reasonable, and even preferred, to the extent that the consequences of having a problem are severe or the
with high specificity will tend to have low sensitivity because they accept false negatives (erroneously failing to identify individuals that do have the problem) as a cost of ensuring that they rule out individuals that do not have the problem. Applying these considerations, the standard methodology has several shortcomings as an efficient and effective approach to problem identification in the context of racial disparities in school discipline.

a. Discipline Risk Ratios are Unstable Over Time

A primary methodological issue with the requirement that states use risk ratios to identify LEAs with significant disproportionality is that risk ratios tend to be too unstable to support efficient identification, evaluation, and intervention. More particularly, because of features inherent to the educational context, such as the low relative frequency of discipline incidents, sporadic and cyclical opportunities for professional training for teachers, and duration of the academic year, a single iteration of the steps in a problem-solving model focused on racial disproportionality will likely to take multiple years. For example, data collected by LEAs during one academic year (e.g., 2019–2020) will generally be aggregated for analysis during the subsequent academic year (e.g., 2020–2021). For LEAs identified with significant disproportionality at that time, problem evaluation and intervention implementation will not likely occur until two years after data collection (e.g., 2021–2022). Further, evaluation of the intervention’s efficacy and planning for subsequent iterations through the problem-solving model, may not occur until the following year (e.g., 2022–2023). Accordingly, to support this process, measures of racial disparities in discipline should be stable enough to provide costs of subsequent problem evaluation or intervention are low, i.e., when it is most important to accurately “rule out” those who do not have the condition. See id. Most people would rather be inaccurately identified for further screening for a potentially fatal but easily treatable form of cancer if they do not have cancer than erroneously identified as not having such a cancer when they do, in fact, have cancer.

337. See id. This tradeoff is reasonable, or even preferred, to the extent that the consequences of having the problem are relatively minor and the costs of subsequent problem evaluation and intervention are high, as may be the case when iterative evaluations and treatments across multiple tiers of support must be tried before the ultimate conclusion can be reached, i.e., when it is most important to accurately “rule in” those who do have the condition. Id.
consistent information about the level of racial disproportionality in an LEA for three or more years.

Test-retest reliability is a common approach for evaluating reliability of measures used for practical applications, such as problem identification, that corresponds to the need for stability over time. As the term suggests, test-retest reliability is assessed by applying the same measure to the same group more than once. Correlations between the results of the multiple measurements are then computed to determine how much outcomes of the measures changed. The commonly accepted criteria for assessing correlations in test-retest reliabilities are that: (1) those between 1.00 and .90 are excellent; (2) those between .89 and .80 are good; and (3) those between .79 to .70 are adequate. Correlations below .70 are too unreliable to have broad applicability.

To assess the test-retest reliability of discipline risk ratios, I used the CRDC to compare Black/non-Black student OSS risk ratios in LEAs from the 2013-14 academic year (x-axis) to those in the 2015-16 academic year (y-axis) for the entire nation as well as in a selection of four states: California, Georgia, Illinois, and Texas. The results of the national comparison is shown in Figure 3.

339. Price et al., supra note 327, at 91.
341. See Saad et al., supra note 327, at 23
342. See Appendix A for the methodology.
343. Graphs for the four states are in Appendix B.
The comparisons of the amount of racial disproportionality from one year to another two years later show that, across the time period necessary for identifying and beginning to address discipline disparities in schools, discipline risk ratios were generally too unreliable to support accurate problem-identification, evaluation, and ultimately, intervention assessment. As a specific example, take points on the graph in Figure 3 that represent LEAs that had black/non-black OSS risk ratios of 4 in the 2013-14 school year—those points falling on or around the vertical line anchored at 4.0 on the x-axis. The spread of the same points on the y-axis indicates that, two years later, these LEAs had black/non-black OSS risk ratios ranging from approximately 1.00 to 14.0, with most of them falling between 2.0 and 6.0. While LEAs, no doubt, experience some actual change in racial disparities in discipline outcomes from year-to-year, given that overall levels of disproportionality are very stable (see Table 3 and the discussion below) the changes are unlikely to be as large as risk ratios imply. From a practical standpoint, knowing an LEA’s risk ratio in the 2013-14 school year thus tells researchers and policy makers too little about
what the LEA’s risk ratio will be in 2015-16 to be useful in identifying LEAs that have consistent problems with racial disproportionality. Accordingly, use of these measures will likely yield a high rate of inaccurate identifications of LEAs—both false positives and false negatives—as well as provide spurious results for evaluations of interventions in those LEAs.

As noted in Section III.A above, the standard methodology attempts to address the reliability problem by allowing states to require that an LEA exceeds the established risk ratio threshold for three consecutive years before being identified as having significant disproportionality.344 This approach may indeed reduce the identification of LEAs that do not have consistently very severe problems with racial disparities in discipline. It is likely, however, also to reduce the accurate identification of all LEAs that do (sensitivity) and do not (specificity) make a substantial contribution to the overall levels of racial disparities in discipline.

To illustrate, I calculated how many LEAs nationally and in each of the four selected states had black/non-black student OSS risk ratios that exceeded the DOE threshold of two MADs345 for their respective population in the 2013–14 academic year, the 2015–16 academic year, and in both years. The results are given in Table 3.

---

344. See 34 C.F.R. §300.647(d) (2019).
345. See supra note 237–239 and accompanying text and Appendix B regarding potential issues with the calculation of MADs.
Table 3

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median + 2 MADs</td>
<td>N Over (%)</td>
<td>Median + 2 MADs</td>
</tr>
<tr>
<td>National (N = 3,422)</td>
<td>4.72</td>
<td>379 (11%)</td>
<td>4.74</td>
</tr>
<tr>
<td>California (N = 232)</td>
<td>4.54</td>
<td>24 (10%)</td>
<td>4.96</td>
</tr>
<tr>
<td>Georgia (N = 151)</td>
<td>3.82</td>
<td>8 (5%)</td>
<td>3.89</td>
</tr>
<tr>
<td>Illinois (N = 172)</td>
<td>5.64</td>
<td>20 (12%)</td>
<td>6.00</td>
</tr>
<tr>
<td>Texas (N = 270)</td>
<td>4.30</td>
<td>29 (11%)</td>
<td>4.24</td>
</tr>
</tbody>
</table>

Table 3 shows that the specific magnitude of the risk ratio threshold, and the number of LEAs exceeding it, were fairly consistent in both academic years. As an example, the top row of values in Table 3 indicates that, although separated by one year, the risk ratio values representing two MADs nationally (4.72 and 4.74) differed by only two-hundredths between the two academic years. Moreover, the proportion (11% and 11%) and number (379 and 377) of LEAs exceeding the thresholds nationally were nearly identical. The stability of these values in the two years indicates that, in the aggregate, the number of LEAs with significant disproportionality and the severity of the racial discipline disparities in the LEAs with the highest black-white OSS risk ratios neither improved nor worsened from 2013-14 to 2015-16.

While the aggregate number and proportion of LEAs exceeding essentially the same threshold value in each of the two years were very similar, the specific LEAs that exceeded those values were not. For example, as indicated in the upper-right cell of Table 3, only about half (192, or 51%) of the LEAs that exceeded two MADs nationally in 2013-14 (379) also exceeded that threshold in 2015-16. Stated in terms of the true positive rate (sensitivity) of the standard methodology, nearly half of the LEAs exceeding the threshold in any given academic
year for significant disproportionality are false positives, in that they will not continue exceeding the threshold for three years.\footnote{This is a conservative estimate of false positives. For this analysis, any LEAs that exceeded the two-MADs threshold in 2013-14 and 2015-16 but not the year between them (2014-15) are erroneously counted as if it had exceeded the threshold for three consecutive years.}

Like a sea-wall that is constructed to prevent flooding but is not built tall enough to keep out the high tide, the inability of the measures in the standard methodology to consistently identify LEAs that contribute to overall racial discipline disparities but that have risk ratios that change significantly from year-to-year (and consistently rule out those that do not) compromises the efficiency and effectiveness of the approach. The above analysis suggests that, on the one hand, the half of LEAs that do exceed the threshold for three years will be required to evaluate and address the causes of their extremely high racial disparities and thus improve. On the other hand, the LEAs that are, as a result of the poor reliability of risk ratios, above the threshold in some years but not in others will not be identified as having a problem. Accordingly, the proportion of the overall levels of racial disproportionality that these LEAs cause will not be addressed.

\textit{b. Discipline Risk Ratios Tend Not to Identify Leas in Which the Impact of Racial Disproportionality Is Highest}

A second methodological disadvantage of discipline risk ratios concerns their validity as measures of racial discipline disparities for use in a problem-solving framework focused on equal educational opportunity. As noted in Section II.C.1 above, risk ratios measure the relative disparities in risk of discipline. This has several advantages, including their relatively intuitive interpretation (a black/non-black OSS risk ratio of 2 means that black students have twice the risk of OSSs as other students) and their ease of comparison between schools with different sized enrollments. Risk ratios do not, however, directly measure the actual extent of the impact of racial disparities on students.\footnote{See Erik J. Girvan et al., \textit{Tail, Tusk, and Trunk: What Different Metrics Reveal about Racial Disproportionality in School Discipline}, 54 Educ. Psychologist 40, 41 (2019).} Moreover, risk ratios tend to have an inverse relationship
with the overall magnitude of the risk of discipline.\textsuperscript{348} Because of these two attributes of risk ratios, LEAs with higher black/non-black OSS risk ratios will tend to be those in which the proportion of black students who are missing class as a result of racial disparities in exclusionary discipline is actually less than it is in LEAs with lower risk ratios.\textsuperscript{349} Relying on risk ratios to identify LEAs with significant disproportionality or to evaluate the effectiveness of interventions can thus yield misleading results concerning where interventions would have the largest benefit and which interventions are best able to address the disparities.\textsuperscript{350}

To illustrate how risk ratios do not directly measure differences in the extent of impact on students, take two example LEAs that differ in the rates in which their students experience OSSs. The first LEA has very low rates of discipline: a black student OSS risk of .05 and a non-Black student risk of .01. The black/non-black student OSS risk ratio of 5 in this LEA reflects only a small difference in risk (.05 - .01 = .04), meaning the racial disparity affects a relatively small proportion of students (4% of black students). By comparison, the second LEA has very high rates of discipline: a black student OSS risk of .50 and non-black student risk of .10. In the second LEA, the exact same risk ratio, 5, also represents a comparatively large difference in risk (.50 - .10 = .40). Accordingly, a relatively large proportion of black students (40%) in the second LEA have OSSs that would not have had them if black students were disciplined at the same rate as other students. Notwithstanding the difference, in terms of risk ratios, the two LEAs are identical.

Even more potentially problematic than the absence of information about the magnitude of the impact of the racial disparity on students is that discipline risk ratios tend to get larger as the underlying rate of discipline gets smaller.\textsuperscript{351} The graph in Figure 4 illustrates the inverse relationship. The Figure compares the OSS risk for non-black students (x-axis) to the black/non-black OSS Risk Ratio (y-axis) from LEAs in the CRDC data collection from 2015-16 school

\textsuperscript{348} See id at 44.
\textsuperscript{349} See id.
\textsuperscript{350} Id.
\textsuperscript{351} See id. at 45–46, 48–50.
year nationally. Examination of the graph shows that the highest risk ratios (those towards the top of the graph) are generally found in LEAs with the lowest risks of discipline for the comparison group (those to the left side of the graphs). Conversely, LEAs with very high risks of discipline for non-black students (those to the right side of the graph) tend also to have lower discipline risk ratios (be in the bottom half of the graph).

![Graph](image)

The absence of direct information in risk ratios about the magnitude of the impacts of racial disparities and the inverse relationship between risk ratios and discipline risks has a least two implications for the use of risk ratios in a problem-solving framework. The first concerns the ability of risk ratios to accurately identify LEAs in which racial disparities in exclusionary discipline pose the largest problem for equal educational opportunity. Because discipline risks are also the proportion of students in the relevant group that have received that type of discipline at least once, LEAs with higher risk ratios will tend to be those in which the extent of impact of the racial disparity is relatively small.

352. For comparison, graphs for the four selected states are in Appendix C.
To illustrate, the graph of national data in Figure 4 suggests that LEAs with the highest risk ratios have a black/non-black student OSS risk ratio of approximately 8—they are near the horizontal line anchored on the y-axis at 8.0—and an average non-black OSS risk of approximately .025—they are between the vertical lines anchored on the x-axis at .01 and .05. This means that about 2.5% of non-Black students, on average, had at least one OSS in the 2015-16 school year in these LEAs. Given the risk ratio of 8, we also know that, on average, the OSS risk for black students in such LEAs is about 8 times this amount, or .20: about 20% of black students in the LEAs experienced at least one OSS.

Compare these LEAs to those in the lower right side of the figure, which have an OSS black/non-black OSS risk ratio of 2 and non-black OSS risk of .25. Under the standard methodology, the LEAs with risk ratios of 8 would be identified as having significant disproportionality—8 easily exceeds the 4.74 threshold of two MADs\(^{353}\)—while the second group with OSS risk ratios of 2 would not. The LEAs with risk ratios of 2, however, actually have a larger absolute discrepancy in risks between black and non-black students (black/non-black OSS risk difference): .50 - .25 = .25 compared to .20 - .02 = .18. Accordingly, the racial disparity in OSSs impacts a larger proportion of the students, and thus has a larger impact on educational opportunity, in the LEAs with the lower risk ratios. In the LEAs with risk ratios of 2, 50% of black students are missing instruction for at least one OSS, 25% more than we would expect if discipline rates were the same as for non-black students. In the LEAs with risk ratios of 8, 20% of black students, 17.5% more than if discipline rates were the same as for non-black students, were impacted. One could reasonably conclude that, as between the two groups of LEAs, those with the lower risk ratios actually have a more significant problem with racial disproportionality and, therefore, ought to be the ones identified for further problem analysis and intervention.

The second implication concerns potential issues with using risk ratios to evaluate the effectiveness of interventions. Because of the inverse relationship between underlying discipline rates and risk ratios, all else being equal, interventions that are effective at reducing students’ violations of their schools’ behavioral expectations, thus

\(^{353}\) See Table 3.
reducing the rates of exclusionary discipline for all students in an LEA, will also tend to increase discipline risk ratios of the LEA, making the problem appear worse.\textsuperscript{354} This can occur even though, as a result of the intervention, both the difference in risk and the number of black students who are negatively impacted by racial disparities in exclusionary discipline is decreasing. Accordingly, policy-makers and researchers who rely upon risk ratios to evaluate an intervention designed to address racial disproportionality in discipline may conclude that the intervention is ineffective, or even that it is exacerbating the problem, when in fact the intervention has reduced the extent of the problem for black students, and increased educational opportunity, in meaningful ways.

V. IMPROVING PROBLEM IDENTIFICATION TO ADVANCE EQUAL EDUCATIONAL OPPORTUNITY

Racial disparities in school discipline pose a substantial barrier to achieving equal educational opportunity. Because of the wide range of factors that contribute to them, existing legal frameworks designed to deter a limited set of direct causes of racial disparities lack the breadth necessary to meaningfully address this barrier. A promising alternative is for anti-discrimination law to adopt a problem-solving approach to addressing race discrimination. Provisions in the IDEA and associated regulations that require identification of significant disproportionality in school discipline for children with disabilities, analysis of the factors that contribute to the disparities, and comprehensive interventions to address them, provide a workable example of such a framework. As the title of this piece suggests, however, the devil is in the details. The IDEA’s approach to problem identification raises important practical, legal, and critical methodological concerns that any effort to move sources of anti-discrimination law towards a problem-solving approach must address.

In this section, I describe a novel alternative approach to problem identification that allows for the consistency and accountability necessary to ensure compliance with a nation-wide legal framework that supports equal educational opportunity. Moreover, the

approach incorporates measures of racial disproportionality that are more reliable and stable than risk ratios. When paired with discipline risk ratios, these measures are more likely to identify LEAs in which racial disparities in discipline pose the largest threat to equal educational opportunity and to provide accurate guidance regarding intervention design and intervention evaluation decisions.

A. Additional Measures

The proposed alternative is to identify LEAs with significant disproportionality using a combination of discipline risk ratios and two other, complementary measures: raw differential representation and the overall discipline rate.

1. Raw Differential Representation.

Raw differential representation (RDR) is the number of students in the target group who experience exclusionary discipline at least once in an academic year but who would not have done so if students in that group were disciplined at the same rate as students in the comparison group.\(^{355}\) It is calculated from either a risk ratio (Equation 12) or risk difference (Equation 13).\(^{356}\)

\[
RDR = \frac{\# \text{ of Target Students Disciplined} - \frac{\# \text{ of Target Students Receiving Discipline}}{(\text{Target/Comparison Student Discipline Risk Ratio})}}{(\text{Target/Comparison Student Discipline Risk Ratio})(12)}
\]

\[
RDR = \# \text{ of Target Students} \times \frac{(\text{Target/Comparison Student Risk Difference})}{(13)}
\]

Raw differential representation values are easy to interpret because the values are students. A value of 0 indicates that no more students from the target group experienced the relevant type of discipline than would have if students from this group were disciplined at the same rate as all other students.\(^{357}\) Similarly, positive values indicate the number of target-group students disciplined that would not


356. *Id.*

357. *Id.*
have disciplined if students from their group faced discipline at the same rate as students from other groups.\textsuperscript{358}

Recall the first example LEA from Part II. That LEA had 200 black students and 1000 white students enrolled, and 40 of the black students, along with 100 of the white students, had at least one OSS in the academic year. The OSS risks for black and white students in the LEA were .20 and .10 respectively. Accordingly, the LEA had a black/non-black OSS risk ratio of 2 (.20/.10 = 2) and a black/non-Black OSS risk difference of .10 (.20 - .10 = .10). Thus, the raw differential representation in the LEA is 20 (see Equations 12a and 13a):

\begin{align*}
20 &= 40 - \left( \frac{40}{2} \right) \text{ (12a)} \\
20 &= 200 \times .10 \text{ (13a)}
\end{align*}

This means that 20 black students in the LEA had one or more OSSs who would not have if black students were disciplined at the same rate as white students.

Raw differential representation is considerably more reliable and stable than risk ratios. To illustrate, Table 4 (left column) provides the correlations between black/non-black OSS RDRs in the 2013-14 and 2015–16 academic years for the nation and four example states. They indicate an overall test-retest reliability nationally of .83. This not only exceeds the minimum of .70, but also indicates that the measure has good reliability. Regarding stability, Table 4 indicates the number of LEAs that fall in the top 10\thsuperscript{th} percentile of raw differential representation in each academic year and both years. Looking nationally, using the 90\thsuperscript{th} percentile as a threshold, 88\% of the LEAs that would have been identified as having significant disproportionality based on data from 2013–14 would also have been identified as having significant disproportionality in 2015–16.

\textsuperscript{358} See id.
Table 4

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≥ 90th percentile</td>
<td>N Over (%)</td>
<td>≥ 90th percentile</td>
</tr>
<tr>
<td>National (N = 3,422) (r = .83)</td>
<td>326</td>
<td>343 (10%)</td>
<td>314</td>
</tr>
<tr>
<td>California (N = 232) (r = .92)</td>
<td>337</td>
<td>24 (10%)</td>
<td>254</td>
</tr>
<tr>
<td>Georgia (N = 151) (r = .99)</td>
<td>590</td>
<td>16 (11%)</td>
<td>723</td>
</tr>
<tr>
<td>Illinois (N = 172) (r = .97)</td>
<td>279</td>
<td>18 (10%)</td>
<td>204</td>
</tr>
<tr>
<td>Texas (N = 270) (r = .99)</td>
<td>357</td>
<td>27 (10%)</td>
<td>409</td>
</tr>
</tbody>
</table>

Raw differential representation provides information about the actual magnitude of the impact of racial disproportionality on students, information that is that is not provided by risk ratios (see part ___ above) and that is potentially critical to identifying the most significant threats to equal educational opportunity. To provide this information, unlike risk ratios and risk differences, the raw differential representation changes with the enrollment of the students in the target group. Thus, all else being equal, it will tend to be larger for LEAs with more students from the target group enrolled. LEAs with high levels of raw differential representation should thus be viewed as those in which racial discipline disparities impact a large number of students. Raw differential representation does not, however, indicate the cause of the disparities.

2. Total Discipline Risk

The total discipline risk (TDR) is not comparative and thus not a measure of disproportionality as such. Rather, it is simply the
proportion of students enrolled in an LEA that were disciplined one or more times in an academic year (see Equation 14).\textsuperscript{359}

\[
TDR = \frac{\text{# of Students Disciplined}}{\text{# of Students Enrolled}} \tag{14}
\]

In the first example LEA, the total discipline risk is .12 (see Equation 14a)

\[
.12 = \frac{140}{1200} \tag{14a}
\]

The total discipline risk has an acceptable test-retest reliability for use in problem identification. The correlation between total discipline risk in LEAs nationally for the 2013–14 and 2015–16 academic years is .78.\textsuperscript{360} Moreover, while not comparative, it provides unique information about the potential sources of the problem of disproportionality that risk ratios and raw differential representation lack. In the discussion of problems with the validity of the discipline risk ratio in Section III.B.2, recall that the primary difference between the example LEAs was that one had very low rates of discipline and the other very high rates of discipline. Examination of risk ratios alone does not provide this information. Further, while raw differential representation provides information about the magnitude of the impact of racial disparities on students, it does not indicate the extent to which that impact is driven by very different rates of discipline (which risk ratios assess) or overuse of exclusionary discipline more generally. The total discipline risk fills in that gap.

\textbf{B. Discipline Disproportionality Score Card}

Raw differential representation, risk ratios, and total discipline risks can be combined into a sort of score card that provides a more reliable approach to identifying LEAs in which racial disparities in discipline have the largest impact on students and an indication of what may be contributing to that impact. The first, raw differential representation, is the most stable of the measures. It provides critical information about the actual impact of disproportionality on students that is not provided by any other the other measures. Its primary weaknesses are that it does not provide information about potential causes of the impact and that it changes depending upon enrollment of

\textsuperscript{359} See Equation 1, supra note 169.

\textsuperscript{360} In the example states, it is California (r = .75), Georgia (r = .85), Illinois (r = .82), and Texas (r = .65).
students in the target group in an LEA. Thus, high levels of raw differential representation can indicate either large differences in discipline risks, high rates of discipline, or simply that an LEA has a very large enrollment of students in the target group. The weakness, however, are strengths of discipline risk ratios and the total discipline risk.

The second measure, the discipline risk ratio, is the *de facto* and, under the IDEA, current *de jure* standard for assessing significant disproportionality. This is due, in large part, because it is easily interpreted, easy to use to compare LEAs with different enrollment patterns, and intuitively linked to the primary concern of general anti-discrimination law: the possibility of purposeful discrimination. Even so, risk ratios have low reliability and contain little to no information about the actual magnitude of the impact of disproportionality. They may also unintentionally narrow the focus of understanding of the problem of racial disproportionality to potential purposeful discrimination and thus narrow the range of interventions, including creating a temptation to institute measures, such as racial quotas, that may violate anti-discrimination law. Thus, if used as the sole method for identifying significant disproportionality or to evaluate interventions for addressing it, they can lead to spurious or inaccurate conclusions. Racial disproportionality can have large impacts in LEAs with low risk ratios and interventions that reduce the number of students who are actually impacted by disproportionality may appear ineffective if evaluated using risk ratios. Moreover, they may unnecessarily prevent those engaging in problem-evaluation from considering the broad range of factors that contribute to racial

---

361. *See supra* Section III.A. Risk differences would also make a good, and, in some ways even superior, alternative to risk ratios because they can be calculated for LEAs that have groups with zero discipline risk and have a standard scale: discipline risks. Adopting that metric would, however, be a complete departure from what LEAs currently do under the IDEA and thus require more effort to implement. Moreover, risk differences have similar reliability issues as risk ratios. For these reasons and those discussed above regarding intuitive interpretation of risk ratios as a measure of inequity, risk ratios are included in the scorecard.

362. *See supra* Section II.C.1

363. *See supra* Section III.B.2.

364. *See supra* Section III.B.1.

365. *See supra* Section III.B.2
disparities in discipline and adopting correspondingly comprehensive interventions. These disadvantages are offset by considering raw differential representation and the total discipline risk, each of which is more stable, decreases as the real impact of disproportionality decreases, and thus highlights other potential impediments to equal educational opportunity.

Finally, the third measure, the total discipline risk, is relatively reliable, scaled to enrollment, and provides vital information about an additional potential source of racial disproportionality, the excessive use of exclusionary discipline, that is not provided by the other measures. It is not, however, a measure of racial differences. This is, however, the strength of raw differential representation and the discipline risk ratio.

The combination of the three metrics provide a consistent, relatively easy to use, and more comprehensive way to identify LEAs with significant disproportionality in terms of (1) the practical impact of racial disparities on educational opportunity (raw differential representation), (2) the extent to which racial differences are related to typical notions of inequitable treatment (risk ratio), and (3) the overall prevalence of exclusionary discipline (discipline rate). Together, this information facilitates targeting, designing, and evaluating interventions to advance the goal of equal educational opportunity.

As an example, the graphs in Figure 5 illustrates the combination of the three metrics for LEAs nationally with respect to OSSs in the 2015-16 school year.\textsuperscript{366} In each figure the size and color of the dots representing each LEA provides its raw differential representation, with larger and darker-colored dots indicating a greater number of students impacted by racial disparities in OSSs. The total OSS rate is given on the x-axis. And the black/non-black student OSSs risk ratio given on the y-axis.

\textsuperscript{366} Graphs for the four illustrative states are in Appendix E.
Examination of the graph in Figure 5 shows that, as compared to other LEAs in the population, LEAs in which racial disparities in discipline impact a relatively large number of students—those with high raw differential representation—often have relatively moderate discipline risk ratios (fall between the horizontal lines anchored at 2 and 4 on the y-axis) but relatively high total discipline risks. Interpreted from the perspective of a researcher or policymaker interested in minimizing the impact of racial disproportionality, this depiction of the problem suggests that a primary driver of the high impact is high rates of discipline itself. Accordingly, implementation of interventions like PBIS and SEL, which have been shown to reduce exclusionary discipline rates by 20% to 40%, may be effective at increasing educational opportunity, even if they do not reduce risk ratios.367

To illustrate, I identified LEAs in the DCRC sample for the 2015-16 academic year that fell in the top 10% for black/non-black student raw differential representation in OSSs. The total raw

367.  See supra note 137 and accompanying text.
differential representation in these 343 LEAs is 556,763. This indicates that in that year over half a million black students that had one or more OSS would not have any if the rates of OSSs for black students was the same as for non-black students. If, following implementation of a discipline intervention, the total rate of discipline in these LEAs was reduced by 30% of its rate in that year, then the total raw differential representation would be reduced by 118,438—over 100,000 fewer black students would miss instruction as a result of racial disparities in exclusionary discipline than did in that academic year. By comparison, if the same interventions were implemented in the 10% of LEAs with the highest OSS risk ratios, the reduction in students impacted by racial disparities would be 7,471. That approach to problem identification, in conjunction with major interventions, is thus only about 6% as effective at reducing the impact of racial disproportionality as if interventions had been targeted to LEAs identified as having high raw differential representation.

V. CONCLUSION

Racial disparities in exclusionary school discipline pose a serious threat to equal educational opportunity. The primary sources of federal anti-discrimination law, however, are designed to deter only the most direct and overt causes of racial discrimination. Meaning, they are not designed to effectively respond to this threat. Anti-discrimination law could more effectively address complex racial issues like disparities in exclusionary school discipline if it adopted a problem-solving approach. Since 2004, the IDEA has required states to use a problem-solving approach to identify and address “significant disproportionality” in discipline outcomes of students with disabilities based on their race. The basic framework of the IDEA appears to work well and thus, can serve as an example for implementation of a broader problem-solving approach for anti-discrimination law. Experience implementing the framework, however, has also raised practical, legal, and methodological issues regarding the assessment of racial disparities and evaluation of responses to them. In response, I

368. This reduction in overall discipline rate is consistent with that observed in studies of discipline interventions like PBIS and Social-Emotional Learning. See supra Section II.A., supra, and supra note 137.
369. See supra note 151.
propose and illustrate the operation of an alternative approach to identifying LEAs with significant disproportionality that addresses these concerns using a cluster of three measures. While this is a far cry from specific legislation, it does demonstrate that anti-discrimination law could be made more effective at supporting equal educational opportunity by addressing complex and persistent racial issues like disparities in school discipline.

**Methodological Appendix A**

Data used for illustrations and analysis are from the Civil Rights Data Collection public-use data files for the 2013–14\(^{370}\) and 2015–16\(^{371}\) academic years. LEAs with less than 10 black students and less than 30 non-black students were excluded from analysis. For each of the remaining LEAs, I calculated the total risk of OSSs and the risk of OSSs for black and non-black students, respectively. To ensure data quality, LEAs with risks that exceeded 1.0 were also removed from the sample. The risks for black and non-black students were then used to calculate black/non-black OSS risk ratios, risk differences, raw differential representation. Finally, the data files for each year were merged and matched by LEA and LEAs that did not have data for both academic years were removed.

Table A1 provides the median and interquartile range for each metric in the national data and data from four states used for illustrations: California, Florida, Georgia, and Texas.

---


Table A1. Descriptive data.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National (N = 3,422)</td>
<td>.06</td>
<td>.12</td>
<td>.04</td>
<td>2.65</td>
<td>.07</td>
<td>31</td>
</tr>
<tr>
<td>California (N = 232)</td>
<td>.05</td>
<td>.13</td>
<td>.04</td>
<td>2.91</td>
<td>.08</td>
<td>39</td>
</tr>
<tr>
<td>Georgia (N = 151)</td>
<td>.07</td>
<td>.12</td>
<td>.05</td>
<td>2.45</td>
<td>.07</td>
<td>70</td>
</tr>
<tr>
<td>Illinois (N = 172)</td>
<td>.05</td>
<td>.13</td>
<td>.04</td>
<td>3.16</td>
<td>.09</td>
<td>29</td>
</tr>
<tr>
<td>Texas (N = 270)</td>
<td>.05</td>
<td>.10</td>
<td>.04</td>
<td>2.53</td>
<td>.06</td>
<td>31</td>
</tr>
<tr>
<td>National (N = 3,422)</td>
<td>.05</td>
<td>.12</td>
<td>.04</td>
<td>2.69</td>
<td>.07</td>
<td>32</td>
</tr>
<tr>
<td>California (N = 232)</td>
<td>.05</td>
<td>.13</td>
<td>.04</td>
<td>3.12</td>
<td>.09</td>
<td>36</td>
</tr>
<tr>
<td>Georgia (N = 151)</td>
<td>.07</td>
<td>.12</td>
<td>.05</td>
<td>2.53</td>
<td>.07</td>
<td>73</td>
</tr>
<tr>
<td>Illinois (N = 172)</td>
<td>.04</td>
<td>.12</td>
<td>.03</td>
<td>3.28</td>
<td>.08</td>
<td>24</td>
</tr>
<tr>
<td>Texas (N = 270)</td>
<td>.04</td>
<td>.10</td>
<td>.04</td>
<td>2.66</td>
<td>.06</td>
<td>32</td>
</tr>
</tbody>
</table>

Note: Cell values are medians over interquartile ranges.
Appendix B

Table B1. MAD Thresholds and Proportion of LEAs Identified

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median + 2 MADs</td>
<td>N Over (%)</td>
<td>Median + 2 MADs</td>
</tr>
<tr>
<td>National (N = 3,422)</td>
<td>4.04</td>
<td>590 (17%)</td>
<td>4.03</td>
</tr>
<tr>
<td></td>
<td>Median + 2 MADs</td>
<td>N Over (%)</td>
<td>Median + 2 MADs</td>
</tr>
<tr>
<td>National (N = 3,422)</td>
<td>4.73</td>
<td>379 (11%)</td>
<td>4.71</td>
</tr>
<tr>
<td></td>
<td>Median + 2 MADs</td>
<td>N Over (%)</td>
<td>Median + 2 MADs</td>
</tr>
<tr>
<td>National (N = 3,422)</td>
<td>9.29</td>
<td>59 (2%)</td>
<td>8.94</td>
</tr>
<tr>
<td></td>
<td>90th Percentile</td>
<td>N Over (%)</td>
<td>90th Percentile</td>
</tr>
<tr>
<td>National (N = 3,422)</td>
<td>4.88</td>
<td>343 (10%)</td>
<td>4.89</td>
</tr>
</tbody>
</table>

Notes: MADs superscripts indicate consistency constant (i.e., scaling factor) used in computing the MAD: ^a = 1; ^b = 1/67; ^c = 1/3 Quartile of standardized risk ratios in the sample LEAs.
Appendix C

Out-of-School Suspensions
California ($r = .48$)

Out-of-School Suspensions
Georgia ($r = .67$)
Out-of-School Suspensions

Illinois \( (r = .23) \)

Out-of-School Suspensions

Texas \( (r = .35) \)
Appendix D

![Graph showing data for California 2015-16](image1)

![Graph showing data for Georgia 2015-16](image2)
Appendix E