

James P. Scanlan
Attorney at Law
1527 30th Street, NW
Washington, D.C. 20007
jps@jpscanlan.com

September 9, 2018

ELECTRONICALLY TRANSMITTED

Michael Muñoz, Superintendent
Members of the Rochester School Board
Rochester Public Schools
617 7th Street, SW
Rochester, MN 55902

Re: The Minnesota Department of Human Rights' Mistaken Belief That Generally Reducing Public School Discipline Rates Will Tend to Reduce, Rather Than Increase, (a) Relative Racial Differences in Discipline Rates and (b) the Proportion African Americans Make Up of Disciplined Students

Dear Superintendent Muñoz and Members of the Rochester Board of Education:

According to a September 6, 2018 *MPR News* [article](#),¹ Rochester Public Schools (RPS) recently entered into an agreement with the Minnesota Department of Human Rights (MDHR) aimed at addressing racial disparities in discipline that MDHR identified at RPS. I have been following actions of MDHR regarding discipline disparities in Minnesota public schools in recent months. And I have noted that, as in numerous other jurisdictions, those actions are based on the belief that generally reducing adverse discipline outcomes like suspensions and expulsions will tend to reduce (a) relative (percentage) racial differences in discipline rates and (b) the proportion African Americans make up of students who are disciplined.

Attached are my letters to MDHR dated [May 14, 2018](#), and [August 27, 2018](#), explaining that exactly the opposite is the case. That is, generally reducing adverse discipline outcomes, tends to increase, not reduce, both (a) and (b). Attached to the letters to MDHR are materials explaining the issue to the U.S. Commission on Civil Rights and the U.S. Departments of Education, Health and Human Services, and Justice, as well as the Maryland State Department of Education.

¹ To facilitate consideration of issues raised in documents such as this I include links to referenced materials in electronic copies of the documents. Such copies are available by means of the [Measurement Letters](#) page of jpscanlan.com. If the online version of the letter is amended, such fact will be noted on the first page of that version.

The letters also address the obligation of MDHR to understand this issue and to explain to the public and school administrators, especially administrators in districts with which MDHR has negotiated, or is negotiating, agreements regarding discipline disparities, that MDHR's understanding of the effects of policies on measures of racial disparity was incorrect. See especially pages 3-4 of the August 27, 2018 letter.

In fairness to MDHR, I note that the agency's mistaken understanding of the effects of policies on measures of racial disparity in school discipline and other adverse outcomes is widespread among many entities and individuals of seeming expertise. And, though MDHR now has reason to recognize that the understanding underlying its actions was incorrect, the agency may not yet understand the issue. Thus, I suggest that by directly raising the issue with MDHR, RPS can both address the problem it faces in complying with an agreement based on an understanding of the effects of modifications of policies on measures of racial disparity that is the opposite of reality and expedite MDHR's coming to understand the matter.

The materials attached to the letters to MDHR should make the matter quite clear to any high school mathematics teacher who reads them carefully. A fairly succinct treatment of the statistical issue with regard to a related misperception about racial disparities in Minnesota may be found in my commentary "[It's easy to misunderstand gaps and mistake good fortune for a crisis](#)," *Minneapolis Star Tribune* (Feb. 8, 2014), and a complete treatment of the subject may be found in the September 2014 [methods workshop](#) I gave at the Minnesota Population Center and Division of Epidemiology and Community Health of the School of Public Health of the University of Minnesota.

Short treatments of the subject with a specific focus on misperceptions about public school discipline disparities may be found in my "[Discipline disparities in Md. Schools](#),"² *Daily Record* (June 21, 2018), "[Things government doesn't know about racial disparities](#)," *The Hill* (Jan. 28, 2014), "[The Paradox of Lowering Standards](#)," *Baltimore Sun* (Aug. 5, 2013), and "[Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies](#)," *Amstat News* (Dec. 2012). Much longer discussions of the failure of persons analyzing demographic differences to understand the ways measures of such differences tend to be affected by the prevalence of an outcome, which give substantial attention to misperceptions regarding demographic differences in public school discipline outcomes, may be found in my [Comments for Commission on Evidence-Based Policymaking](#) (Nov. 14, 2016), and my "[Race and Mortality Revisited](#)," *Society* (July/Aug. 2014).³

² A subscription may be required to read the item on the publication's website. A free copy may be found here: <http://jpscanlan.com/disciplinedisparities/oaklanddisparities.html>.

³ See also pages 3-4 of my [Comments for the Commission on Evidence-Based Policymaking](#) (Nov. 28, 2016) (a follow-up to the November 14, 2016 comments).

Michael Muñoz, Superintendent
Members of the Rochester School Board
September 9, 2018
Page 3

I intend to continue to attempt to educate MDHR on this subject, while also addressing the issues with Minnesota school districts that have reached or may reach agreements with MDHR regarding discipline disparities issues. Assuming I do that, I may send copies of the communications to RPS.

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

Attachments

cc: Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
Minnesota Department of Human Rights

James P. Scanlan
Attorney at Law
1527 30th Street, NW
Washington, D.C. 20007
jps@jpscanlan.com

May 14, 2018

Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
Minnesota Department of Human Rights
Freeman Building
625 Robert North Street
Saint Paul, Minnesota 55155

Re: MDHR's Mistaken Understanding That Generally Reducing Public School Discipline Rates Will Tend to Reduce, Rather Than Increase, (a) Relative Racial Differences in Discipline Rates and (b) the Proportion African Americans Make Up of Disciplined Students

Dear Commissioner Lindsey and Deputy Commissioner Shipchandler:

The purpose of this letter is to explain to the Minnesota Department of Human Rights (MDHR) that the agency's understanding of the effects of modifying discipline policies on measures of racial differences in discipline rates is the opposite of reality and to impress upon the agency its obligation to explain the matter to entities that have been misled by agency actions.

Recent MDHR actions regarding racial differences in discipline outcomes appear to be based on the understanding, which has been promoted for some time the U.S. Departments of Education, Health and Human Services, and Justice (and recently by the U.S. Government Accountability Office), that relaxing standards and otherwise generally reducing adverse discipline outcomes will tend to reduce (a) relative racial and other demographic differences in rates of experiencing the outcomes and (b) the proportions more susceptible groups make up of persons experiencing the outcomes. In fact, generally reducing any outcome tends to increase, not reduce, both (a) and (b) as to the outcome.

That is, reducing an outcome and thereby increasingly restricting it to those most susceptible to it, while tending to reduce relative differences in rates of avoiding the outcome (*i.e.*, experiencing the opposite outcome), will tend to increase relative differences in the outcome itself; correspondingly, reducing the outcome, while tending to increase the proportions groups

Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
May 14, 2018
Page 2

more susceptible to the outcome make up of persons avoiding the outcome, will tend also to increase the proportions such groups make up of persons experiencing the outcome itself.¹

Attached hereto are my December 8, 2017 [testimony](#)² explaining this issue to the U.S. Commission on Civil Rights and the [handout](#) for a March 22, 2018 meeting in which I explained the issue to the staff of the U.S. Department of Education.

The key statistical points are explained fairly succinctly in my “[Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies](#),” *Amstat News* (Dec. 2012), “[The Paradox of Lowering Standards](#),” *Baltimore Sun* (Aug. 5, 2013), and “[It’s easy to misunderstand gaps and mistake good fortune for a crisis](#),” *Minneapolis Star Tribune* (Feb. 8, 2014).

The *Star Tribune* column discusses the issue with respect to the failure to understand that advantaged areas like Minnesota that commonly have comparatively low rates of adverse health outcomes tend to show comparatively large relative racial and socioeconomic differences in rates of experiencing those outcomes but comparatively low relative differences in rates of avoiding the outcomes. The longstanding failure to understand this patterns is also the subject of the concluding paragraphs of my “[United States Exports Its Most Profound Ignorance About Racial Disparities to the United Kingdom](#),” *Federalist Society Blog* (Nov. 2, 2017).

The same statistical tendency underlies comparatively large relative racial differences in adverse discipline outcomes in suburban schools compared with central city schools and with regard to subjectively-identified offenses compared with objectively-identified offenses. See the [Suburban Disparities](#) and [Offense Type Issues](#) subpages of the [Discipline Disparities](#) page of [jpscanlan.com](#).

These are things that it is essential for civil rights organizations to understand to effectively perform their missions. That is especially the case if in fact some school districts have bias problems. For it is impossible to identify those districts – or to determine whether the problems are increasing or decreasing over time – without understanding the ways measures of differences tend to be affected by the prevalence of the outcome. See my “[The Misunderstood Relationship](#)

¹ In this letter I discuss the pertinent statistical issue with reference to racial differences. The points made about relative differences apply to any demographic difference. But the proportions more susceptible groups make up of persons experiencing the outcome is a function of the relative difference between a group’s rate and the rate for all other persons rather the relative difference between two groups’ rates. Those proportions will be affected by changes in frequency of an outcome in the same way as relative differences when there are only two groups. The matter will be more complicated when there are several groups. But the complication is not of consequence to the main issues addressed in this letter.

² To facilitate consideration of issues raised in documents such as this I include links to referenced materials in electronic copies of the documents. Such copies are available by means of the [Measurement Letters](#) page of [jpscanlan.com](#). If the online version of the letter is amended, such fact will be noted on the first page of that version.

Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
May 14, 2018
Page 3

[Between Racial Differences in Conduct and Racial Differences in School Discipline and Criminal Justice Outcomes,](#)” Federalist Society Blog (Dec. 20, 2017).

More comprehensive treatments of the pertinent statistical patterns may be found my [Comments for the Commission on Evidence-Based Policymaking](#) (Nov. 14, 2016), amicus curiae [brief](#) in *Texas Department of Housing and Community Development, et al. v. The Inclusive Communities Project, Inc.*, Sup. Ct. No. 13-1731 (Nov. 17, 2014), “[Race and Mortality Revisited,](#)” *Society* (July/Aug. 2014), and “[The Mismeasure of Discrimination,](#)” Faculty Workshop, University of Kansas School of Law (Sept. 20, 2013).

Many graphical and tabular illustrations of the patterns may be found in the methods [workshop](#) I gave at arms of the University of Minnesota in 2014 ([abstract](#)), as well as similar workshops given at other American universities between 2012 and 2015 ([University of Massachusetts Medical School](#) (2015), [University of California, Irvine](#) (2015), [George Mason University](#) (2014), [University of Maryland](#) (2014), [Harvard University](#) (2012), [American University](#) (2012)).

In addition to understanding the reasons that generally reducing adverse discipline outcomes tend to increase, not reduce, the aforementioned (a) and (b) as to the outcomes, it is important that MDHR understand that recent general reductions in discipline rates across the country, including in Minnesota, Minneapolis, and St. Paul, have in fact been accompanied by increased relative racial differences in discipline rates. See the following subpages of the Discipline Disparities page of [jpscanlan.com](#): [California Disparities](#), [Colorado Disparities](#), [Connecticut Disparities](#), [Florida Disparities](#), [Maryland Disparities](#), [Minnesota Disparities](#), [Oregon Disparities](#), [Rhode Island Disparities](#), [Utah Disparities](#), [Beaverton, OR Disparities](#), [Denver Disparities](#), [Henrico County, VA Disparities](#), [Kern County \(CA\) Disparities](#), [Milwaukee Disparities](#), [Los Angeles SWPBS, Loudoun County \(VA\) Disparities](#), [Minneapolis Disparities](#), [Montgomery County, MD Disparities](#), [Portland, OR Disparities](#), [St. Paul Disparities](#), [South Bend Disparities](#).

These patterns have occurred, moreover, notwithstanding that administrators are commonly taking actions to reduce racial differences beyond generally reducing discipline rates. Anything that actually reduce the strength of the forces causing racial differences in discipline outcomes will tend to reduce all measures of racial disparity. But where discipline rates are being materially reduced, the reductions in the strength of the forces causing racial differences in discipline outcomes commonly will have to be substantial to cause an increase in the relative racial difference in discipline rates not to be observed.

There are a number of pernicious consequences of federal and state governments’ leading school administrators and others to mistakenly believe that generally reducing adverse discipline will tend to reduce certain measures of racial disparity when in fact such actions will tend to increase those measures. For one thing, entities that follow government guidance to generally reduce adverse discipline outcomes increase the chances that the government will accuse them of discrimination. Further, when policies that are supposed to reduce measures of racial disparity in fact increase those measures, observers who believe that racial bias plays a large role in observed

Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
May 14, 2018
Page 4

differences will tend to believe that bias must be increasing. And all observers will believe that, whatever nature of the problem causing racial differences in discipline rates, the problem must be getting worse. It is entirely possible that school administrators in various locales have been terminated as a result of the mistaken understanding that generally reducing discipline rates should be reducing relative differences in discipline rates and the proportions African Americans make up of discipline students.

The consequences of the mistaken understanding are especially serious in the case of entities acting under agreements requiring actions that will tend to increase relative differences in discipline rates (and the proportions African Americans make up of disciplined students) while the entities' compliance with the agreement is being evaluated with the expectation that compliance should reduce those measures. See my "[Compliance Nightmare Looms for Baltimore Police Department](#)," Federalist Society Blog (Feb. 8, 2017). See also my September 20, 2016 [letter](#) to the Oklahoma City School District, which operates under such an agreement with the U.S. Department of Education based on the mistaken understanding.

Thus, it is essential that MDHR devote whatever resources are necessary to understanding these issues. And it is imperative that MDHR advise the public and school administrators that the understanding reflected in MDHR actions that generally reducing discipline rates will tend to reduce relative racial differences is incorrect. That is an especially pressing obligation in the case of the school districts that MDHR has recently cited for racial disparities in discipline outcomes, the more so in the case of districts with which MDHR has executed agreements, or is in the process of negotiating agreements, to address those disparities. See my July 17, 2017 letter to the U.S. Departments Education, Health and Human Services, and my [April 12](#) and [April 17](#), 2018 letters to the U.S. Government Accountability Office advising them of similar obligations to correct the mistaken understandings they have promoted.

I will be circulating copies of this letter to various Minnesota school districts.

Sincerely,

/s/ **James P. Scanlan**

James P. Scanlan

Attachments

Measuring Discipline Disparities

James P. Scanlan

(Statement Prepared for U.S. Commission on Civil Rights Briefing “The School to Prison Pipeline: The Intersection of Students of Color with Disabilities” (Dec. 8, 2017))

Federal government policy regarding racial differences in school discipline outcomes has been consistently based on the belief that relaxing discipline standards and otherwise reducing adverse discipline outcomes will tend to reduce (a) relative (percentage) racial differences in rates of experiencing the outcomes and (b) the proportions African Americans and other racial minorities make up of persons experiencing the outcomes. In fact, exactly the opposite is the case.

By way of clarification, if the minority suspension rate is 15% and the white rate is 5%, the ratio of the minority rate to the white rate would be 3.0. That is, the minority rate is 200% greater than the white rate. The 200% figure is the relative, or percentage, difference. In the same situation, assuming minorities are 20% of students, they would be 43% of suspended students.

Federal policy has been based on the belief that activities that generally reduce suspensions (like Positive Behavioral Interventions & Support (PBIS) programs) will tend to reduce the 3.0 ratio and the 43% proportion figures. In fact, such activities will tend to increase those figures.

Test Score Illustration

Table 1 provides a simple illustration of why this is the case. The table is based on hypothetical test scores of higher- and lower- scoring groups (which are denominated AG for advantaged group and DG for disadvantaged group).

The first row of the table shows the pass rates for the two groups at a particular cutoff. The pass rates are 80% for AG and 63% for DG. Thus, AG’s pass rate is 1.27 times (27% greater than) DG’s pass rate.¹

¹ While I commonly refer to patterns of relative differences in this statement, the table actually presents rate ratios (also termed risk ratios or relative risks). The relative difference is the rate ratio minus 1 where the rate ratio is above 1 and 1 minus the rate ratio where the rate ratio is below one. In the former case, the larger the rate ratio, the larger the relative difference; in the latter case, the smaller the rate ratio, the larger the relative difference. It is more common to employ the disadvantaged group’s rate as the numerator for the favorable as well as the adverse outcome, which is the approach as to favorable outcomes of the “four-fifths” or “80 percent” rule for identifying disparate impact under the Uniform Guideline for Employee Selection Procedures. I have sometimes employed this approach, as in “Can We Actually Measure Health Disparities?,” *Chance* (Spring 2006) (http://www.jpscanlan.com/images/Can_We_Actually_Measure_Health_Disparities.pdf). More recently, however, I have usually used the larger figure as the numerator for both rate ratios, in which case, as to both favorable and adverse outcomes, the larger the rate ratio, the larger the relative difference. Choice of numerator in the rate ratio, however, has no bearing the patterns described here whereby measures tend to be affected by the prevalence of an outcome.

Table 1. Illustration of effect of lowering test cutoff on relative difference between pass rates of advantaged group (AG) and disadvantaged group (DG)

Cutoff	AG Pass Rate	DG Pass Rate	AG/DG Pass Ratio
1 High	80%	63%	1.27
2 Low	95%	87%	1.09

The second row shows what would happen if the cutoff is lowered to the point where AG’s pass rate is 95%. Assuming normal test score distributions, DG’s pass rate would be about 87%. With the lower cutoff AG’s pass rate would be only 1.09 times (9% greater than) DG’s pass rate. The fact that lowering a cutoff tends to reduce relative differences in pass rates is the reason why lowering a test cutoff is universally regarded as reducing the disparate impact of tests on which some groups outperform others.

At this point it may seem that I have contradicted my point at the outset. But, whereas lowering a cutoff tends to reduce relative differences in pass rates, it tends to increase relative differences in failure rates. This pattern is illustrated in Table 2. The table presents the same information as Table 1, but with the failure rates of the two groups added, along with the ratio of DG’s failure rate to AG’s failure rate (in the final column). The column with the rate ratios for test passage is highlighted in blue and the column with the rate ratios for test failure is highlighted in red.

Table 2. Illustration of effect of lowering test cutoff on (a) relative difference between pass rates and (b) relative difference between failure rates of advantaged group (AG) and disadvantaged group (DG)

Cutoff	AG Pass Rate	DG Pass Rate	AG Fail Rate	DG Fail Rate	AG/DG Pass Ratio	DG/AG Fail Ratio
1 High	80%	63%	20%	37%	1.27	1.85
2 Low	95%	87%	5%	13%	1.09	2.60

The final (red highlighted) column shows that with the initial cutoff DG’s failure rate was only 1.85 times (85% greater than) AG’s pass rate. With the lower cutoff, DG’s failure rate is 2.60 times (160% greater than) AG’s failure rate.

That is, as the prevalence of test passage and test failure generally changed as a result of lowering the cutoff, the relative difference in the increasing side of the dichotomy (test passage) decreased and the relative difference in the decreasing side of the dichotomy (test failure) increased.

As suggested at the outset, appraisals of discipline disparities issue sometimes focus on the proportions racial minorities make up of persons disciplined (compared with the proportions such groups make up of students). Patterns of changes in the proportions groups make up of persons experiencing either of the two outcomes as the prevalence of the outcomes changes are corollaries to the patterns shown in Table 2.

Table 3 is the same as Table 2, but with two more columns added on the right. These columns show the proportions DG makes up of persons who pass the test (highlighted in blue) and persons who fail the test (highlighted in red) in circumstances where DG makes up 50% of persons who take the test.

Table 3. Illustration of effect of lowering test cutoff on (a) relative difference between pass rates and (b) relative difference between failure rates of advantaged group (AG) and disadvantaged group (DG) and proportion DG makes up of (c) persons who pass the test and (d) persons who fail the test (where DG makes up 50% of test takers)

Cutoff	AG Pass Rate	DG Pass Rate	AG Fail Rate	DG Fail Rate	AG/DG Pass Ratio	DG/AG Fail Ratio	DG Prop of Pass	DG Prop of Fail
1 High	80%	63%	20%	37%	1.27	1.85	44%	65%
2 Low	95%	87%	5%	13%	1.09	2.60	48%	72%

The penultimate column shows that lowering the cutoff causes the proportion DG makes up of persons who pass the test to increase from 44% to 48%. That would reduce the difference between the proportion DG makes up of persons who take the test and the proportion it makes up of persons who pass the test.

But the final column shows that lowering the cutoff also increased the proportion DG makes up of persons who fail the test, from 65% to 72%. That would increase the difference between the proportion DG makes up of persons who take the test and the proportion DG makes up of persons who fail the test.

These patterns are not peculiar to test score data or the numbers I used to illustrate them. Rather, changing the frequencies of virtually any outcome and its opposite tends to cause the relative difference in the increasing outcome to decrease and the relative difference in the decreasing outcome to increase (with related effects on the proportions groups more susceptible to the outcomes make up of persons who experience the increasing outcome and the decreasing outcome).

This will not invariably happen with the consistency that will be observed with hypothetical test score data. For many factors are at work. But it will typically happen, especially when the changes in the prevalence of an outcome are substantial. In the school discipline context in particular, generally reducing discipline rates, while tending to reduce relative racial differences in rates of avoiding discipline (analogous to test passage), will tend to increase relative racial differences in rates of being disciplined (analogous to test failure). And in fact that is being observed all across the country as school districts have been generally reducing discipline rates while mistakenly believing that doing so should reduce relative racial differences in discipline rates (or the proportions racial minorities make up of student who are disciplined).²

² See page 8 of my July 17, 2017 letter to the Departments of Education, Health and Human Services, and Justice. http://www.jpscanlan.com/images/Letter_to_Departments_of_Education,_HHS,_and_Justice_July_17,_2017_.pdf

It is important to recognize that the situation is not one where the government has reasoned that, while the above-described patterns will be found in test score data, there are reasons why the patterns will not ordinarily be found in other situations. Rather, despite dealing with issues about demographic differences in test outcomes for half a century, the government has failed even to understand that lowering a test cutoff tends to increase relative differences in failure rates.

It is also important to understand that an increase in the relative difference in the adverse outcome does not mean that a disparity has increased in some meaningful sense any more than the reduction in the relative difference in the favorable outcome means that a disparity has decreased in a meaningful sense. Rather, the problem is that neither relative difference is a useful indicator of the strength of the forces causing the outcome rates of two groups to differ (or, as we might otherwise put it, the size of the difference in the circumstances of two groups reflected by their outcome rates). That is quite important to recognize as we endeavor to understand the causes of disparities and determine whether they are growing larger or smaller over time or are larger in one setting than another.

Still focusing on either Table 2 or Table 3 (though the former is somewhat simpler), one may think of the pass and fail rates as reflecting any favorable and adverse outcome rates that result from decisions of individual decision-makers. In the school discipline context, consider the failure rates as if they are the suspension rates of minorities and whites and the pass rates as if they are the groups' rates of rates of avoiding suspension. To the extent that bias on the part of decision-makers contributes to the differences between rates, any actions that reduce that bias will tend to reduce all measures of racial differences between favorable or adverse outcomes.

At the same time, however, simple reductions in adverse discipline outcomes, such as those resulting from PBIS programs, will tend to change the measures of difference in the manner reflected in the tables. Thus, in consequence of general reductions in discipline rates, a school district that substantially reduces suspension rates will tend to show a pattern of changing measures of differences in outcome rates akin to that found in movement from the first row to the second row of the two tables.

In circumstances where decision-makers, including teachers and administrators, are being encouraged to generally reduce suspension rates, all other things being equal, the results for decision-makers who do not try very hard to reduce suspension rates will tend to look more like the first row than the second row. The results for decision-makers who try very hard to reduce suspension rates will tend to look more like the second row than the first row.

Thus, consider a situation where the two rows reflect the results of actions of two different decision-makers and an effort is made to determine which decision-maker is more likely to have made racially biased decisions. One would reach opposite conclusions depending on whether one examined relative differences in the favorable outcome or relative differences in the adverse outcome. In fact, however, there is no rational basis for distinguishing between the two rows with regard to the question of which is more likely to reflect the results of biased decisions.

It should be evident that it is essential for school administrators endeavoring to address discipline disparities issues, and those monitoring those efforts and otherwise attempting to ensure equal

treatment for all groups, to understand these patterns. Yet the situation is not simply that virtually no one involved in such efforts understands these patterns; rather, virtually everyone involved in such efforts proceeds on a belief about the effects of generally reducing discipline rates on the measures most commonly employed in quantifying racial and other demographic disparities that is the opposite of reality.

Illustration of the Effects of Substituting a Reprimand for What Would Otherwise Be a First Suspension on Proportions More Susceptible Groups Make up of Persons Suspended

Data made available in Department of Education reports provide other simple illustrations of the effects of generally reducing adverse discipline outcomes rates on measures of racial or other demographic differences in discipline outcomes.

Tables 4 and 5 are based on data from a March 21, 2014 Department of Education report titled “Data Snapshot: School Discipline.”³ The data in the report enable one to determine the proportions demographic groups make up of K-12 and preschool students who are suspended (a) one or more times and (b) two or more times.⁴

Table 4. Illustration of effect of giving all students a reprimand instead of their first suspension on proportion African Americans make up of K-12 and preschool students receiving one or more suspensions

Setting	Number of Suspensions	AA Proportion of Students Experiencing the Outcome
K-12	One or more	37%
K-12	Two or more	43%
Preschool	One or more	44%
Preschool	Two or more	48%

Table 4 provides that information with regard to African American students in K-12 and preschool. The first row of the first set of two rows shows the proportion African Americans make up of K-12 students suspended one or more times (37%) and the second of those rows shows the proportion they make up of K-12 students suspended two or more times (43%). Suppose, then, that in every situation that otherwise would have resulted in a first suspension, the students were given a reprimand rather than a suspension. In such case, the figure in the second row would tend to become the figure for one or more suspensions. Thus, the 37% figure for the proportion African Americans make up of K-12 students suspended one or more times would tend to rise to 43%.

³ <https://www2.ed.gov/about/offices/list/ocr/docs/crdc-discipline-snapshot.pdf>

⁴ The document provided information on the proportions demographic groups made up of K-12 and preschool students suspended one time and suspended multiple times. From the information provided in the report, one can then determine the proportions the groups made up of persons suspended (a) one or more times and (b) two or more times.

The second two rows of the table provide a similar illustration for preschool. In this setting, giving students a reprimand instead of their first suspension would tend to cause the proportion African Americans make up of students suspended one or more times to increase from 44% to 48%.

Table 5 presents the same type of information for boys, who commonly have higher suspension rates than girls and thus commonly make up a larger proportion of suspended students than the approximately 50% that they make up of all students. Here, too, the Department of Education data show that in both K-12 and preschool, giving students a reprimand rather than what would otherwise be their first suspension would tend to increase the proportion boys (the group more susceptible to suspension) make up of students suspended one or more times.

Table 5. Illustration of effect of giving all persons a reprimand instead of their first suspension on proportion boys make up of K-12 and preschool students receiving one or more suspensions

Setting	Number of Suspensions	Male Proportion of Students Experiencing the Outcome
K-12	One or more	70%
K-12	Two or more	72%
Preschool	One or more	80%
Preschool	Two or more	82%

Illustration of Effects of the Prevalence of Adverse Discipline Outcomes in Different Settings on Measures of Racial Disparity in Those Settings

I often describe the statistical pattern at work in the discipline context (and essentially every other context where disparities are quantified in terms of relative differences or measures that are functions of relative differences) as that whereby the rarer and outcome, the greater tends to be the relative difference in experiencing it and the smaller tends to be the relative differences in avoiding it. One important, though universally misunderstood, manifestation of that pattern is that in settings (or among subpopulations) where adverse discipline outcomes are comparatively uncommon, relative racial differences in rates of experiencing those outcomes will tend to be larger, while relative differences in the corresponding favorable outcome will tend to be smaller, than in settings where the outcomes are comparatively common.

Tables 6 and 7 are based on data from the Massachusetts and Loudoun County, Virginia. Both are areas where policymakers or others have expressed concern that, though the areas have comparatively low suspension rates, relative racial differences or other measures of racial differences in suspensions are comparatively high.

The two tables may be compared to Table 2 above (save that they do not show the rates at which the two groups avoid suspension, the equivalent of test passage) with columns reordered to be more consistent with the way the issues are commonly discussed (and with the same color-coding for the rate ratios for the adverse and favorable outcomes). But I have added an additional column at the end termed EES, for estimated effect size. This column presents a measure of the strength of the forces causing outcome rates of two groups to differ that is theoretically unaffected by the prevalence of an outcome. I describe it (and its strength and weaknesses) in my “Race and Mortality Revisited,” *Society* (July/Aug. 2014)⁵ and various other places.

Table 6: Out-of-school suspension rates for African American and white students in Massachusetts and nationally in 2012-2013, with measures of difference

Area	AA Rate	White Rate	AA/White Ratio-Susp	White/AA Ratio - No Susp	EES
Massachusetts	10.0%	2.7%	3.70	1.08	0.65
National	16.4%	4.6%	3.57	1.14	0.71

Table 6 shows the common patterns whereby the setting with comparatively low suspension rates (Massachusetts compared with national figures) shows larger relative differences in suspension rates, but smaller relative differences in rates of avoiding suspension, than are found nationally. The EES figures – .65 in Massachusetts and .71 nationally – indicate that the forces causing suspension rates of African American and white students to differ (whatever those forces may be) are weaker in Massachusetts than nationally.⁶

Table 7 presents similar information from schools in Loudoun, County Virginia (an affluent suburb of Washington, DC), where suspension rates are very low. In this case, the concern about large racial disparities was prompted by the comparatively high ratio of the proportion African Americans made up of suspended students to the proportion they made up of students.⁷

⁵ http://jpscanlan.com/images/Race_and_Mortality_Revisited.pdf

⁶ These data and similar data relating to students with disabilities are discussed more fully in my November 12, 2017 letter to the Boston Lawyers’ Committee for Civil Rights and Economic Justice. http://jpscanlan.com/images/Letter_to_Boston_Lawyers_Committee_Nov._12,_2015_.pdf

⁷ That areas with low African American representation among students tend to have higher such ratios than other areas even when the areas have same suspension rates for African American students and for other students is among a number of reasons beyond the statistical patterns addressed here that comparisons of the proportion a group makes up of persons potentially experiencing an outcome and the proportion the group makes up of persons actually experiencing the outcome cannot effectively quantify the forces causing outcome rates of advantaged and disadvantaged groups to differ. See references in the succeeding note. See also the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page of jpscanlan.com. <http://jpscanlan.com/disciplinedisparities/ideadatacenterguide.html>

The ratio African American suspension rate to the white suspension rate is actually slightly lower in Loudoun County than nationally, while the relative difference in rates of avoiding suspension is much lower in Loudoun County than nationally. The EES figures – .55 in Loudoun County and .71 nationally – indicate that the forces causing suspension rates of African American and white students to differ are considerably weaker in Loudoun County than nationally.⁸

Table 7: Out-of-school suspension rates for African American and white students in Loudoun County (VA) Public Schools and nationally in 2012-2013, with measures of difference

Area	AA Rate	White Rate	AA/White Ratio-Susp	White/AA Ratio - No Susp	EES
LCPS	4.65%	1.3%	3.54	1.04	0.55
National	16.4%	4.6%	3.57	1.14	0.71

Neither Massachusetts nor Loudoun County has any idea that to the extent that racial disparities in school discipline can be effectively measured, their disparities are smaller, not larger, than nationally. Nor do they have any idea that the actions to generally reduce discipline rates that they see as means of reducing the measures of racial disparity that are causing them concern will in fact tend to increase those measures.

Table 8, which is based on Table 8 of the aforementioned "Race and Mortality Revisited," is similar to Tables 6 and 7. But rather than comparing figures from a particular geographic area with national figures, Table 8 compares figures in preschool (where suspensions are comparatively rare) with figures from K12 (where suspensions are much more common). The table presents figures on multiple suspensions, which is the outcome respecting which racial disparities received the greatest attention when racial disparities in preschool suspensions first received substantial attention in 2014.⁹

⁸ These data are discussed more fully in the Loudoun County (VA) Disparities subpage of the Discipline Disparities page of [jpscanlan.com](http://jpscanlan.com/disciplinedisparities/loudounctydisparities.html) (<http://jpscanlan.com/disciplinedisparities/loudounctydisparities.html>). That subpage also discusses data showing that between the 2009-2010 and the 2013-2014 school years general reductions in suspension rates were accompanied by an increase in the relative differences between African American and white suspension rates and a decrease in the relative difference between African American and white rates of avoiding suspension, with negligible change in the EES. See also my September 5, 2017 letter explaining this issue to the Loudoun County School Board. [http://jpscanlan.com/images/Letter to Loudoun County Public Schools Sept. 5, 2017 .pdf](http://jpscanlan.com/images/Letter%20to%20Loudoun%20County%20Public%20Schools%20Sept.%205,%202017.pdf)

⁹ The facts receiving special attention in coverage of the issue were that African Americans were 18% of preschool children but 48% of preschool students receiving multiple suspensions. The figures in Table 8 are the suspension rates that can be derived from data in the previously mentioned Department of Education March 2014 document "Data Snapshot: School Discipline." The 18% and 48% figures were also highlighted in a March 21, 2014 Department of Education report titled "Data Snapshot: Early Childhood Education." <https://www2.ed.gov/about/offices/list/ocr/docs/crdc-early-learning-snapshot.pdf>

Table 8. African American and white rates of multiple suspensions in preschool and K-12, with measures of difference

Level	AA Mult Susp Rate	White Mult Susp Rate	AA/Wh Ratio Mult Susp	Wh/AA Ratio No Mult Susp	EES
Preschool	0.67%	0.15%	4.41	1.01	.49
K12	6.72%	2.23%	3.01	1.05	.51

As will commonly be observed, Table 8 shows that in the setting where suspensions are less common (preschool) relative differences in multiple suspension rates are greater, while relative differences in rates of avoiding multiple suspensions are smaller, than in the setting where suspensions are more common (K-12). In this case, however, the EES figures are very similar suggesting that, whatever the forces causing African American and white suspension rates to differ, they are of approximately the same strength in the two settings.

Table 9 is based on data from a 2012 Department of Education report titled “Helping to Ensure Equal Access to Education: Report to the President and Secretary.”¹⁰ Data were provided only on the proportion African Americans make of students and expelled students overall and in zero tolerance schools. The actual expulsions rates were not available. But based on the data available, one can present those two proportions in each setting and derive therefrom the relative difference between the African American rate and the rate for all other students.

Table 9: Proportions African Americans make up of students and expelled students overall and in schools with zero tolerance policies, with ratio of the African American expulsion rate to the white expulsion rate

Setting	AA Proportion of Students	AA Proportion of Expulsions	AA/Non-AA Expulsion Ratio
Overall	18%	39%	2.91
Zero Tolerance Schools	19%	33%	2.10

In accordance with the pattern described above, the ratio of the African American expulsion rate to the expulsion rate of other students was higher where expulsions were presumably less common (overall) than in the setting where expulsions were presumably more common (zero tolerance schools). (I do not present an EES figure because one needs the actual expulsion rates to derive such figure.) There nevertheless continues to be a near universal belief that zero tolerance policies lead to larger relative racial differences in adverse disciplines outcomes (and larger African American proportions or persons experiencing those outcomes) than more lenient policies.

An understanding of these patterns is also essential to drawing sound inferences about processes based on the comparative size of disparities. Relative racial differences in suspension rates are commonly greater, while relative differences in rates of avoiding suspension are commonly smaller, among girls (where suspensions are less common) than among boys (where suspensions

¹⁰ <http://www2.ed.gov/about/reports/annual/ocr/report-to-president-2009-12.pdf>

are more common). Correspondingly, relative gender differences in suspension are commonly greater, while relative gender differences in rates of avoiding suspension are commonly smaller, among whites (where suspensions are less common) than among African Americans (where suspensions are more common). See the Discipline Disparities page of jpscanlan.com.¹¹

Similarly, relative racial differences in suspensions will commonly be greater, while relative differences in avoiding suspensions will commonly be smaller, among students without disabilities (where suspensions are less common) than among students with disabilities (where suspensions are more common). Correspondingly, relative differences between the suspension rates of students with and without disabilities will commonly be greater, while relative differences between rates at which such groups avoid suspension will commonly be smaller, among whites (where suspensions are less common) than among African Americans (where suspensions are more common).

One cannot draw inferences about processes on the basis that one of these disparities is larger than another, or otherwise usefully hypothesize about why any disparity is larger than another, without understanding the above-described and other patterns by which measures tend to be affected by the prevalence of an outcome.

Conclusion

The failure to understand the ways the prevalence of an outcome affects relative differences in rates of experiencing an outcome and relative differences in rates of avoiding the outcome is but part of a larger failure of the government (and the social science and statistical communities) to understand the ways standard measures of differences between outcome rates of advantaged and disadvantaged groups tend to be affected by the prevalence of an outcome. For more extensive treatment of that issue with regard to all analyses of demographic differences in outcome rates in the law and the social and medical sciences, see the aforementioned "Race and Mortality Revisited," my November 14, 2016 Comments for Commission on Evidence-Based Policymaking,¹² and my October 8, 2015 letter to the American Statistical Association.¹³ With regard to the way the larger failure has undermined Department of Education analyses of demographic differences regarding student outcomes apart from discipline, see my "Innumeracy at the Department of Education and the Congressional Committees Overseeing It," Federalist Society Blog (Aug. 24, 2017).¹⁴ See also the July 17, 2017 letter to the Departments of Education, Health and Human Services, and Justice mentioned in note 2 *supra*, which, in addition to advising the agencies of their obligations to correct prior guidance to school administrators as to the likely effects of generally reducing discipline rates on measures of discipline disparities, suggests that the agencies halt all funding of research into demographic

¹¹ <http://jpscanlan.com/disciplinedisparities.html>

¹² <https://www.regulations.gov/document?D=USBC-2016-0003-0135>

¹³ http://jpscanlan.com/images/Letter_to_American_Statistical_Association_Oct._8,_2015_.pdf

¹⁴ <http://www.fed-soc.org/blog/detail/innumeracy-at-the-department-of-education-and-the-congressional-committees-overseeing-it>

differences that fails to consider implications of the ways the measures employed tend to be affected by the prevalence of an outcome.

But the mistaken belief that generally reducing an adverse outcome should tend to reduce, rather than increase, relative differences in rates of experiencing the outcome (and the proportions groups more susceptible to the outcome make up of persons experiencing it) – which informs federal civil rights policies regarding criminal justice, lending, employment, and voter qualification, as well as school discipline – is an extreme example of the larger failure of understanding. And it has pernicious consequences. These include the many anomalies where by complying with government encouragements to relax standards and otherwise reduce adverse outcomes, entities covered by civil rights law increase the chances that the government will accuse them of discrimination. Similar anomalies exist in situations where individual actors who comply with their employers' instruction to reduce adverse outcomes increase the chances that their employees will accuse them of discrimination. Further, in contexts where actions that are supposed to be reducing measures of racial disparity are followed by increases in those measures, observers will conclude that the forces causing outcome rates to differ must be growing stronger, often prompting increasing distrust in the fairness of systems.

Such conclusions will not have a sound statistical basis. But so far very few people understand that.

Materials for Meeting of Department of Education Staff with James Scanlan
(Mar. 22, 2018)

Issues (pages 1-2)

Illustrative Tables and Figures (pages 3-7)

Extended References (pages 8-11)

ISSUES

Issue 1:

Guidance by the Department of Education (DOE), as well as Departments of Justice (DOJ) and Health and Human Services (HHS), regarding school discipline policies has been premised on the belief that relaxing standards and otherwise generally reducing suspension rates will tend to reduce (a) the ratio of the African American suspension to the white suspension rate and (b) the proportion African Americans make up of suspended students. In fact, exactly the opposite is the case.

Recommendations for DOE action:

a. Communicate (ideally in conjunction with DOJ and HHS) to school administrators, the public, and Congress (by Dear Colleague letters and otherwise) that prior guidance as to the effects of policies on measures of racial disparity was incorrect.

b. Advise Congress of the ways statutes involving education and youth justice issues are premised on the mistaken belief that generally reducing adverse outcomes will tend to reduce the measures of disproportionality typically used by the government.

c. Review all agreements with school districts to determine whether the agreements require modifications to practices that tend to increase (a) and (b) while contemplating measuring compliance in terms of reductions in (a) and (b).

Issue 2:

There exists a general failure of persons and entities analyzing demographic differences regarding rates at which advantaged and disadvantaged groups experience favorable or adverse outcomes to recognize the ways measures employed in such analyses tend to be affected by the prevalence (frequency) of the outcomes. Analyses of such differences and guides thereon have almost invariably been unsound and misleading because they have not addressed (a) the extent to which observed patterns of changes in a measures are functions of the change in the prevalence of the outcome and (b) the extent to which such patterns reflect something significant about underlying processes, including the effects of policies aimed at mitigating the comparative disadvantage of certain groups.

Recommendations for DOE action:

a. Withdraw (or withdraw DOE association with) all research involving analyses of demographic differences that has attempted to quantify such differences, and all materials providing guidance on quantifying those differences, that have failed to consider the effects of the prevalence of an outcome on measures employed or discussed.

b. Review all DOE research and research grants to determine whether they fail to address the implications of the effects of the prevalence of an outcome on the measures employed or discussed; halt all funding that cannot be shown to address those implications in a useful manner.

c. In conjunction with other agencies, form a committee to reform the analyses of demographic differences.

Key references (available on web by means of title search or on Measurement Letters page of jpscanlan.com):

Statement of James P. Scanlan Prepared for U.S. Commission on Civil Rights Briefing “The School to Prison Pipeline: The Intersection of Students of Color with Disabilities” (Dec. 8, 2017)

“Innumeracy at the Department of Education and the Congressional Committees Overseeing It,” Federalist Society Blog (Aug. 24, 2017)

Letter to United States Departments of Education, Health and Human Services, and Justice (July 17, 2017)

Comments of James P. Scanlan for Commission on Evidence-Based Policymaking (Nov. 14, 2016)

ILLUSTRATIVE TABLES AND FIGURES

Table 1. Illustration of effects of lowering a test cutoff on measures of differences in test outcomes of advantaged group (AG) and disadvantaged group (DG) (based on situation where groups are of equal size) (Table 1 of July 17, 2017 letter to DOE, HHS, DOJ)

Row	(1) AG Pass Rate	(2) DG Pass Rate	(3) AG Fail Rate	(4) DG Fail Rate	(5) AG/DG Pass Ratio	(6) DG/AG Fail Ratio	(7) DG Prop of Pass	(8) DG Prop of Fail
1	80%	63%	20%	37%	1.27	1.85	44%	65%
2	95%	87%	5%	13%	1.09	2.60	48%	72%

Table 1 illustrates that lowering a test cutoff – and thereby generally increasing pass rates and generally reducing failure rates – tends to *reduce* relative differences in pass rates (Column 5) and *increase* relative difference in failure rates (Column 6). Table also shows that lowering cutoffs tends to *increase* both the proportion DG makes up persons who pass (Column 7) and the proportion DG makes up of persons who fail (Column 8).

Considerations:

- Improving education in way that enables everyone scoring between the two cutoffs to reach the higher cutoff will have the same effect as lowering the cutoff.
- In circumstances where favorable and adverse outcome rates in the two rows result from actions of decisionmakers, there is no rational basis for distinguishing between the two rows with respect to the likelihood of decisionmaker bias.
- Other things being equal, decisionmaker who employs more relaxed standards or are more cautious about imposing adverse outcomes will tend show results more like those in Row 2 than Row 1.
- Patterns in the two rows are akin to those one would find where Row 1 involves more serious (often deemed objectively-identified) offenses while Row 2 involves less serious (often deemed subjectively-identified) offenses. See Offense Type Issues subpage of Discipline Disparities page of jpscanlan.com.
- Regarding Columns 4 and 8, a pattern that it is crucial to know, though virtually no one in fact knows, is that generally reducing an adverse outcome tends to (a) *reduce* the proportion of a disadvantaged group that experiences the outcome but (b) *increase* the proportion the disadvantaged group makes up of persons who experience the outcome.
- Lowering the cutoff decreased the absolute (percentage point) difference between pass (or fail) rates from 17 to 8. Usually when observers say that general reductions in suspensions decreased a disparity (mainly Daniel Losen and colleagues), they are referring to the percentage point difference. That does not mean that the absolute difference is a useful measure of association. See "Race and Mortality Revisited," *Society* (July/Aug. 2014) and Figures 1 and 2 and Table 6 *infra*.

Table 2. Illustration of effect of giving all students a reprimand instead of their first suspension on proportion African Americans make up of K-12 and preschool students receiving one or more suspensions (Table 4 of testimony to Commission on Civil Rights)

Setting	Number of Suspensions	AA Proportion of Students Experiencing the Outcome
K-12	One or more	37%
K-12	Two or more	43%
Preschool	One or more	44%
Preschool	Two or more	48%

Table 2 illustrates that a policy of giving reprimands instead of what would otherwise be first suspensions will tend to increase proportion African Americans make up of persons with one or more suspensions.

Table 3. African American and white rates of multiple suspensions in preschool and K-12, with measures of difference (Table 8 of Commission on Civil Rights testimony and Table 8 or “Race and Mortality Revisited,” Society (July/Aug. 2014))

Level	(1) AA Multiple Susp Rate	(2) Wh Multiple Susp Rate	(3) AA/Wh Ratio Mult Susp	(4) Wh/AA Ratio No Mult Susp	(5) EES
Preschool	0.67%	0.15%	4.41	1.01	.49
K12	6.72%	2.23%	3.01	1.05	.51

Table 3 illustrates that relative differences in receiving multiple suspensions are larger (Column 3), but relative differences in avoiding multiple suspensions are smaller (Column 4), in preschool (where multiple suspensions are comparatively rare) than in K-12 (where multiple suspensions are more common). Column 5 shows that, to the extent that the forces causing black and white rates to differ can be measured, they are about the same in both settings. Illustration is based on data from March 21, 2014 DOE report titled “Data Snapshot: Early Childhood Education” underlying the fact highlighted in the document, and much-cited in discussions of it, that African American children, who make up 18% of preschool students, make up 48% of preschool students with multiple suspensions.

Table 4. States regarded favorably and unfavorably in March 21, 2014 DOE document. 1) titled “Data Snapshot: School Discipline.”

State	Proportion of restrained students who were students with disabilities	Way state was regarded by DOE	Likely degree to which states follows DOE guidance on restraints
Nevada	96%	Unfavorably	High
Florida	95%	Unfavorably	High
Wyoming	93%	Unfavorably	High
Arkansas	43%	Favorably	Low
Louisiana	41%	Favorably	Low
Mississippi	40%	Favorably	Low

See Restraint Disparities subpage of the Discipline Disparities page of jpscanlan.com regarding reasons why following DOE guidance to restrict the use of physical restraints to the most extreme cases tends to increase, not reduce, the proportion students with disabilities make up of restrained students.

Table 5: Proportions African Americans make up of expelled students overall and in schools with zero tolerance policies, with ratio of the African American expulsion rate to the white expulsion rate (based on 2012 DOE report titled “Helping to Ensure Equal Access to Education: Report to the President and Secretary”) (Table 9 of Commission on Civil Rights testimony)

Setting	(1) AA Proportion of Students	(2) AA Proportion of Expulsions	(3) AA/Non-AA Expulsion Ratio
Overall	18%	39%	2.91
Zero Tolerance Schools	19%	33%	2.10

Table 5 illustrates that the African American/white expulsion ratio is greater in schools without zero tolerance policies than in schools with zero tolerance policies.¹

¹ One can derive the rate ratio in Column 3 from the figures in Columns 1 and 2 even though one does not have the actual rates. One needs the actual rates to attempt to determine whether forces causing rates to differ are greater in schools with or without zero tolerance policies. This is one of the reasons, but not the only reason, one can never analyze a demographic difference in the basis of a comparison between the proportion a group makes up of students and the proportion it makes up of students experiencing an outcome. See Section C the Kansas Law paper “The Mismeasure of Discrimination,” Section I.B of the Texas Department of Housing brief, and Section C of the November 14, 2016 Comments to the Commission on Evidence-Based Policy Making (listed in Section B of Extended References); see also the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page of jpscanlan.com.

Figure 1. Absolute differences between rates of AG and DG pass (or fail) rates at various cutoff points defined by AG fail rate (Figure 2 CEBP Comments)

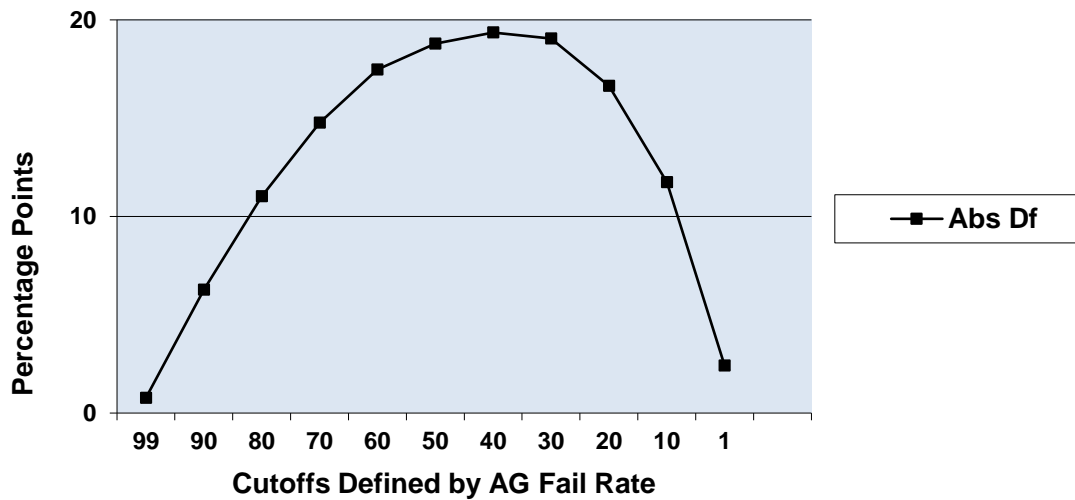
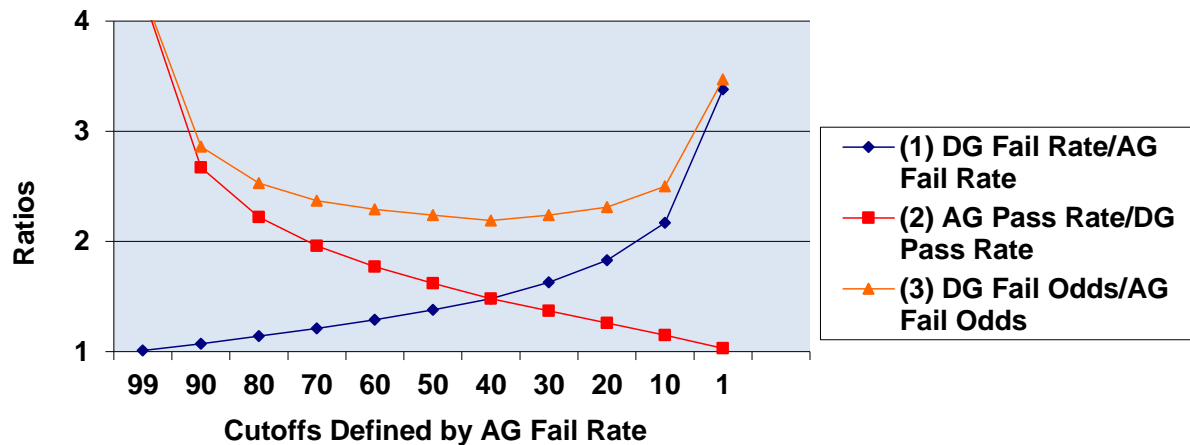


Figure 2. Ratios of (1) DG fail rate to AG fail rate, (2) AG pass rate to DG pass rate, (3) DG failure odds to AG failure odds (Figure 2 from the CEBP Comments)



Figures 1 and 2, which are based on the same specifications as Table 1, illustrate the effect of lowering a cutoff from a point where almost everyone fails to the point where almost everyone passes. Notice that direction of change in the absolute difference tends to track direction of change of the smaller of the two relative differences (initially (1)/diamond marker, later (2)/rectangle marker). Because observers who rely on relative differences to measure disparities commonly rely on the larger of the two relative differences (school discipline, mortgage outcomes, poverty, unemployment), such observers tend to reach opposite conclusions about directions of changes in disparities from observers who rely on absolute differences.

Table 6. Favorable outcome rates of advantaged group (AG) and disadvantaged group (DG) at four levels of prevalence with different favorable outcome frequencies, with measures of difference

	(1) AG Fav Rate	(2) DG Fav Rate	(3) AG/DG Fav Ratio	(4) DG/AG Adv Ratio	(5) Absolute Diff (Perc Points)	(6) Odds Ratio
A	20.0%	9.0%	2.22 (1)	1.14 (4)	11.0	2.53
B	40.0%	22.6%	1.77 (2)	1.29 (3)	17.4	2.28
C	70.0%	51.0%	1.37 (3)	1.63 (2)	19.0	2.24
D	80.0%	63.4%	1.26 (4)	1.83 (1)	16.6	2.31

Table 6 illustrates that across all prevalence ranges general increases in favorable outcomes tend to reduce relative differences in those outcomes (Column 3) while increasing relative differences in the corresponding adverse outcomes (Column 4). The highlighted absolute difference column (5) shows that generally increasing an uncommon outcome (e.g., rates of advanced proficiency) tends to increase absolute (percentage point) differences between rates, as reflected by movement from row A to Row B; but generally increasing a common outcome (e.g., rates of achieving basic proficiency) tends to reduce absolute differences between rates, as reflected by movement from Row C to Row D.

See Educational Disparities page of jpscanlan.com and its subpages. See discussion of Table 5 in "Race and Mortality Revisited.," *Society* (July/Aug. 2014) and discussion (at 337-339) regarding the implications of failure to understand the pattern by which absolute differences tend to be affected by the prevalence of an outcome with respect to disparities reduction elements in pay-for-performance programs, especially in Massachusetts.

EXTENDED REFERENCES

All items listed below are available online and most can be accessed by web searches for their titles. Items that may not be found by web searches should be available on the Measurement Letters page of jpscanlan.com.

A. Short items explaining the mistaken understanding of effects of relaxing standards on measures of demographic difference involving school discipline or criminal justice outcomes (essentially primers on Issue 1)

“Things Do doesn’t know about racial disparities in Ferguson,” *The Hill* (Feb. 22, 2016)

“Things government doesn’t know about racial disparities,” *The Hill* (Jan. 28, 2014).

“The Paradox of Lowering Standards,” *Baltimore Sun* (Aug. 5, 2013)

“Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies,” *Amstat News* (Dec. 2012)

“An Issue of Numbers,” *National Law Journal* (Mar. 5, 1990)²

B. More extensive treatments of Issue 1 or Issue 2 with respect to the full range of matters to which the issues pertain

Statement of James P. Scanlan Prepared for U.S. Commission on Civil Rights Briefing “The School to Prison Pipeline: The Intersection of Students of Color with Disabilities” (Dec. 8, 2017)

Comments of James P. Scanlan for Commission on Evidence-Based Policymaking (Nov. 14, 2016)

“The Mismeasure of Health Disparities,” *Journal of Public Health Management and Practice* (July/Aug. 2016)

“Race and Mortality Revisited,” *Society* (July/Aug. 2014)

Amicus curiae brief of James P. Scanlan in *Texas Department of Housing and Community Development, et al. v. The Inclusive Communities Project, Inc.*, Supreme Court No. 13-1731 (Nov. 17, 2014)

“The Mismeasure of Discrimination,” Faculty Workshop, University of Kansas School of Law (Sept. 20, 2013)

“Measuring Health and Healthcare Disparities,” Federal Committee on Statistical Methodology 2013 Research Conference (Nov. 2013)

² Explains that lowering National Collegiate Athletic Association academic standards for participation in intercollegiate athletics will tend to increase the proportion African Americans make up of athletes disqualified from participation.

C. Recent articles or blog posts discussing, with respect to certain current issues, government policies or actions based on an understanding of the effects of generally reducing school discipline or criminal justice outcomes on measures of racial disparity that is the opposite of reality

“The misunderstood effects of the Baltimore police consent decree,” *The Daily Record* (Feb. 15, 2018)

“The Misunderstood Relationship Between Racial Differences in Conduct and Racial Differences in School Discipline and Criminal Justice Outcomes,” Federalist Society Blog (Dec. 20, 2017).³

“United States Exports Its Most Profound Ignorance About Racial Disparities to the United Kingdom,” Federalist Society Blog (Nov. 2, 2017)

“The Pernicious Misunderstanding of Effects or Policies on Racial Differences in Criminal Justice Outcomes,” Federalist Society Blog (Oct. 12, 2017).

“Innumeracy at the Department of Education and the Congressional Committees Overseeing It,” Federalist Society Blog (Aug. 24, 2017) *

“The Government’s Uncertain Path to Numeracy,” Federalist Society Blog (July 21, 2017)

D. Web pages on jpscanlan.com

Discipline Disparities page and 41 subpages

Subpages address various issues. About 25 pertain to situations where general reductions in discipline rates were in fact associated with increased relative racial/ethnic differences in discipline rates or where the settings with comparatively low discipline rates had comparatively high relative demographic differences in discipline rates.

Education Disparities page and its 7 subpages

The subpages mainly pertain to research examining demographic differences in educational outcomes in terms of relative differences in the favorable or the adverse outcome, or absolute differences between rates, without consideration of the ways the measures employed tend to be affected by the prevalence of the outcome. That is, researchers failed to understand that general improvements in educational outcomes tend to reduce relative differences in favorable outcomes while increasing relative differences in the corresponding adverse outcomes, or that such improvements tend to increase absolute differences for uncommon outcomes like advanced proficiency but reduce absolute differences for common outcomes like basic proficiency.

³ This item also discusses some complex issues regarding inferences related to likelihood that bias plays a role in racial differences akin to those addressed on the Offense Type Issues subpage of the Discipline Disparities page of jpscanlan.com.

E. Letters to DOE, DOJ, or HHS Regarding School Discipline Issues

Departments of Education, Health and Human Services, and Justice (July 17, 2017)
Department of Justice (Apr. 13, 2017)
Departments of Education and Health and Human Services of Education (Aug. 24, 2015)
Department of Justice (Apr. 23, 2012)
Department of Education (Apr. 18, 2012)

F. Letters to DOE contractors and grantees and other entities that conduct research or provide guidance on research regarding demographic differences in discipline or education outcomes (known DOE contractors/grantees denoted with asterisk)

American Institutes for Research (Aug. 25, 2017) *
Pyramid Equity Project (Nov. 28, 2016) *
University of Oregon Institute on Violence and Destructive Behavior and University of Oregon Law School Center for Dispute Resolution (July 5, 2016) *
University of Oregon Institute on Violence and Destructive Behavior and University of Oregon Law School Center for Dispute Resolution (July 3, 2016) *
New York City Center for Innovation through Data Intelligence (June 6, 2016)
Texas Appleseed (Apr. 7, 2015)
Wisconsin Council on Families and Children's Race to Equity Project (Dec. 23, 2014)
Education Law Center (Aug. 14, 2014)
IDEA Data Center (Aug. 11, 2014) *
Annie E. Casey Foundation (May 13, 2014)
Education Trust (April 30, 2014)

G. Letters to school districts regarding difficulties in their particular situations arising from their own mistaken beliefs, or the mistaken beliefs of others, that generally reducing discipline rates will tend to reduce (a) relative differences in discipline rates or (b) the proportion disadvantaged groups make up of persons disciplined

Metro Nashville Public Schools (Feb. 14, 2018)
Loudoun County Public Schools (Sept. 5, 2017)
Duval County Public Schools (Aug. 2, 2017)
Oklahoma City School District (Sept. 20, 2016)
Antioch Unified School District (Sept. 9, 2016)
Houston Independent School District (Jan. 5, 2016)
McKinney, Texas Independent School District (Aug. 31, 2015)

H. DOE-sponsored documents warranting withdrawal

As suggested in the Recommendations regarding Issue 2, all DOE-sponsored documents measuring or providing guidance on measuring demographic differences in educational outcomes should probably be withdrawn. Those listed below are merely some notable examples.

IDEA Data Center Technical Assistance Guide titled “Methods for Assessing Disproportionality in Special Education (revised March 2014).”⁴

Institute of Education Sciences study titled “Disproportionality in school discipline: An assessment of trends in Maryland, 2009-12” (March 2014).⁵

Institute of Education Sciences/Regional Educational Laboratory guide titled “School discipline data indicators: A guide for districts and schools” (April 2017).⁶

DOE Regulation 24 CFR Part 300 – Assistance to States for the Education of Children with Disabilities; Preschool Grants for Children with Disabilities.⁷

⁴ See the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page of jpscanlan.com. See also pages 8-9 of the August 24, 2015 letter to the Secretaries of DOE and HHS.

⁵ This item, which is made available on the DOE “School Climate and Discipline: Know the Data” page and treated on the Maryland Disparities subpage of the Discipline Disparities page of jpscanlan.com, is problematic both because it measures suspension disparities in relative terms and because it reflects the mistaken belief that generally reducing discipline suspension rates would be expected to reduce relative racial differences in suspension rates.

⁶ This item has problems similar to those of the IDEA Data Center Technical Assistance Guide.

⁷ On February 28, 2018, DOE postponed implementation of this regulation until 2020. By then the agency should recognize that one cannot usefully measure demographic based on relative differences in outcome rates (or other measures that tend to change solely because the prevalence of an outcome changes).

**James P. Scanlan
Attorney at Law
1527 30th Street, NW
Washington, D.C. 20007
jps@jpscanlan.com**

August 27, 2018

ELECTRONICALLY TRANSMITTED

Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
Minnesota Department of Human Rights
Freeman Building
625 Robert North Street
Saint Paul, Minnesota 55155

Re: Additional Information Regarding MDHR's Mistaken Understanding That Generally Reducing Public School Discipline Rates Will Tend to Reduce, Rather Than Increase, (a) Relative Racial Differences in Discipline Rates and (b) the Proportion African Americans Make Up of Disciplined Students

Dear Commissioner Lindsey and Deputy Commissioner Shipchandler:

This letter is a follow-up to my [letter](#)¹ of May 14, 2018, in which I explained that contrary to the belief underlying Minnesota Department of Human Rights (MDHR) policies, relaxing standards and otherwise generally reducing adverse public school discipline outcomes will tend to increase, not reduce, (a) relative racial and other demographic differences in rates of experiencing the outcomes and (b) the proportions more susceptible groups make up of persons experiencing the outcomes.

One purposes of this letter is to provide additional information regarding that fact that generally reducing discipline rates tends to increase (a) and (b). A second purpose of the letter is to further stress the obligation of MDHR to explain to the public and school administrators that MDHR's understanding of the effects of policies on measures of racial disparity was incorrect.

Attached hereto is my June 26, 2018 [letter](#) to the Maryland State Department of Education (MSDE). The letter discusses two types of additional information supporting the expectation that generally reducing adverse public school discipline outcomes is more likely to increase, rather than reduce, the aforementioned (a) and (b).

¹ To facilitate consideration of issues raised in documents such as this I include links to referenced materials in electronic copies of the documents. Such copies are available by means of the [Measurement Letters](#) page of jpscanlan.com. If the online version of the letter is amended, such fact will be noted on the first page of that version.

First, at page 3 of the earlier letter, I provided links to web pages discussing that recent reductions in discipline rates in various jurisdictions, including the state of [Minnesota](#) and the cities of [Minneapolis](#) and [St. Paul](#), as well as the state of [Maryland](#), were in fact accompanied by increased relative racial differences in discipline rates. The Maryland page had been based on a March 2014 study by the U.S. Department of Education's Institute of Education Sciences titled "[Disproportionality in school discipline: An assessment of trends in Maryland, 2009-12.](#)" The study found that during the period between the 2009/10 and 2011/12 school years, when the rate at which Maryland students received out-of-school suspensions or expulsions was reduced from 5.6 percent to 5.0 percent, "disproportionality between Black and White rates increased."

The attached MSDE letter discusses a November 2015 study by the Maryland Equity Project of the College of Education of the University of Maryland titled "[Out-of-School Suspensions in Maryland Public Schools.](#)" The study showed that general reductions in out-of-school suspension in Maryland between the 2008-09 and 2013-14 school years had been accompanied by an increase in the ratio of the statewide black suspension rate to the statewide white suspension rate.² But the most compelling aspect of the study was its appendix showing that in 21 of the 23 Maryland school districts for which data on black and overall suspension rate reductions could be analyzed, during the period of general reductions in suspensions between the 2008-09 and 2013-14 school years, the overall suspension rate underwent a larger percentage decrease than the black suspension rate. That the overall percentage decrease was larger than the black percentage decrease means that the ratio of the black suspension rate to the non-black suspension rate increased. While the ratio of the black suspension rate to the non-black suspension rate is not same thing at the ratio of the black suspension rate to the white suspension rate in districts where some students are neither black nor white, the ratios will usually change in the same direction. Thus, this study provides a systematic demonstration that, while generally reducing discipline rates may not always lead to an increase in relative racial differences in discipline rates, it will do so in the great majority of cases.³

Further, that the black suspension rates showed a smaller proportionate decline than the rates for other students necessarily means that (absent changes in the proportion African American students made up of total students), the proportion African American students made up suspended students increased.⁴

² The relative difference between two rates is (a) the ratio of the two rates minus 1 when the larger of the two rates is used as the numerator of the ratio and (b) 1 minus the ratio of the two rates when the smaller of the two rates is used in the numerator of the ratio.

³ I also discuss the study in "[Discipline disparities in Md. Schools,](#)" *Daily Record* (June 21, 2018).

⁴ While MDHR appears usually to discuss differences in discipline rates in terms of the ratio of the disadvantaged group's rate to the advantaged group's rate, the agency apparently sometime discusses such differences in terms of a comparison of the proportion a disadvantaged group or groups make up of students and the proportion the group or groups make up of students experiencing an adverse discipline outcome, as in the March 2, 2018 press release titled "[Minnesota Department of Human Rights Finds Suspension and Expulsion Disparities in School Districts Across the State.](#)" There are additional problems with this approach beyond the fact that general reductions in discipline

Second, one easy-to-understand indicator of the effects of generally reducing suspensions on measures of demographic difference is the fact that groups with higher than average suspension rates commonly make up a higher-proportion of students with more than one suspension than they make up of students with one or more suspensions. Thus, giving every student a reprimand rather than what would otherwise be the student's first suspension will tend to cause the proportion groups with higher than average suspension rates to make up a higher proportion of students with one or more suspensions than they previously did. This was illustrated in terms of proportions black and male students made up students with one or more suspensions and the proportions they make up of students with more than one suspension in Tables 4 and 5 of my December 8, 2017 [testimony](#) for the U.S. Commission on Civil Rights that was attached to my earlier MDHR letter (and which is Attachment A to the MSDE letter).

I make a similar point in the MSDE letter based on U.S. Department of Education data covering the 2013-14 school year. These data show that nationally, the ratio of the black rate of receiving one or more suspensions to the white rate of receiving one or more suspensions was 4.0, while the ratio of the black rate of receiving multiple suspensions to the white rate or receiving multiple suspensions was 5.2. And in all but five states the ratio for multiple suspensions was larger than the ratio for one or more suspensions. In Maryland, the ratio for one or more suspensions was 3.3, while the ratio for multiple suspensions was 4.5.

The Department of Education data show a similar pattern for Minnesota. The ratio of the black rate of receiving one or more suspensions to the white rate of receiving one or more suspension was 6.2, while the ratio of the black rate of receiving multiple suspensions to the white rate of receiving multiple suspensions was 8.7. Thus, in Minnesota, as in most other places, giving every student a reprimand rather than what would otherwise be the student's first suspension (or otherwise addressing the basis for the first suspension through things like restorative justice programs) will tend to increase the ratio of the black rate of receiving one or more suspensions to the white rate of receiving one or more suspensions.

In the earlier MDHR letter, I discussed the obligation of MDHR to explain to the public and school administrators that the understanding reflected in MDHR actions that generally reducing discipline rates will tend to reduce relative racial differences in discipline rates was incorrect. I noted that this was an especially pressing obligation in the case of the school districts that MDHR has recently cited for racial disparities in discipline outcomes, the more so in the case of districts with which MDHR has executed agreements, or is in the process of negotiating agreements, to address those disparities. Yet, nothing reported in the press or reflected on the MDHR website, including discussions of further negotiations of agreements with school districts, suggests that MDHR is taking actions to acknowledge its misunderstanding of the effects of policies on measures of demographic differences.

rates tend to increase, not reduce, the proportion disadvantaged groups make up of persons disciplined. See page 3 of my April 12, 2018 [letter](#) to Comptroller General of the United States.

Kevin Lindsey, Commissioner
Rowzat Shipchandler, Deputy Commissioner
August 27, 2018
Page 4

Prior to receipt of May 18, 2018 letter, MDHR was similar to the many federal, state, and local jurisdictions (and much of the social science community) in that it was promoting a belief about the effects of modifying practices on measures of racial and other demographic differences that was the opposite of reality. Those actions had the effect of causing MDHR to act irrationally in seeking to identify which school districts have particularly serious disparity problems and which school districts are making the greatest efforts to generally reduce discipline rates. Those actions also created chaotic situations for school districts that, on their own or pursuant to agreements with MDHR, implemented policies that tended to increase relative differences in suspensions while monitoring practices on the basis of the size of relative differences in suspensions. But, like the other entities just mentioned, MDHR simply did not understand the matter.

Now, however, MDHR understands the matter or ought to understand the matter. Thus, failure of MDHR to correct the mistaken belief it has promoted about the effects of policies on measures of racial disparity, as well as any MDHR actions that further promote that mistaken belief, constitute more serious governmental misfeasance than the agency's prior actions regarding this subject.

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

Attachments

James P. Scanlan
Attorney at Law
1527 30th Street, NW
Washington, D.C. 20007
jps@jpscanlan.com

June 26, 2018

ELECTRONICALLY TRANSMITTED

Karen B. Salmon, Ph.D., State Superintendent of Schools
Miya T. Simpson, Ph.D., Executive Director of the State Board of Education
Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201-2595

Subj: Failure of the Maryland State Department of Education to Understand That Generally Reducing Adverse Public School Discipline Outcomes Tends Increase, Not Reduce, Relative Racial and Other Demographic Differences in Discipline Rates

Dear Superintendent Salmon and Executive Director Simpson:

The main purpose of this letter is to explain to the Maryland State Department of Education (MSDE) that, contrary to the belief underlying MSDE policies, generally reducing adverse public school discipline outcomes tends to increase, not reduce, relative (percentage) racial and other demographic differences in rates of experiencing the outcomes. Other purposes of the letter are to urge MSDE to explain to school administrators and the public that understandings expressed or implied in prior MSDE actions regarding demographic differences in discipline outcomes have been incorrect and to urge the agency to form a committee to examine the soundness of its analyses of demographic differences in educational outcomes.

A. MSDE's Mistaken Belief that Generally Reducing Discipline Rates Will Tend to Reduce Relative Racial and Other Demographic Differences in Discipline Rates

Consistent with the view promoted by the U.S. Departments of Education, Health and Human Services, and Justice, MSDE policies regarding public school discipline have been based on the belief that relaxing standards, and otherwise generally reducing adverse discipline outcomes through such things as Positive Behavior Intervention and Support programs, will tend to reduce relative racial and other demographic differences in rates of experiencing such outcomes. In fact, the opposite is the case.

Generally reducing an adverse discipline outcome and thereby restricting it to those most susceptible it does tend to reduce relative racial and other differences in rates of avoiding the

outcome. But generally reducing an outcome tends to increase relative differences in the outcome itself.

Attachments A to C to this letter are my December 8, 2017 [testimony](#)¹ explaining the issue to the U.S. Commission on Civil Rights, my July 17, 2017 [letter](#) explaining the issue to the U.S. Departments of Education, Health and Human Services, and Justice, and the [handout](#) I used to explain the issue to U.S. Department of Education staff at a March 22, 2018 meeting.

I explained the key statistical point briefly in “[The Paradox of Lowering Standards](#),” *Baltimore Sun* (Aug. 5, 2013), at a time when MSDE was considering relaxing public school discipline standards while mistakenly believing that generally reducing suspension would tend to reduce relative racial differences in suspensions.² In explaining that generally reducing suspensions would instead tend to increase such differences, I also discussed that, since many factors are at work, generally reducing suspension would not always have to be accompanied by increased relative racial differences in suspensions.

But that is what generally happens, as was being demonstrated across the country in 2013 and as is also being demonstrated today.³ Possibly the most compelling evidence of the usual effects of generally reducing suspensions on relative differences in discipline rates can be found in a November 2015 study by the Maryland Equity Project of the College of Education of the University of Maryland titled “[Out-of-School Suspensions in Maryland Public Schools](#),” which I recently discussed in “[Discipline disparities in Md. Schools](#),” *Daily Record* (June 21, 2018).⁴

¹ To facilitate consideration of issues raised in documents such as this I include links to referenced materials in electronic copies of the documents. Such copies are available by means of the [Measurement Letters](#) page of [jpscanlan.com](#). If the online version of the letter is amended, such fact will be noted on the first page of that version.

² Similarly brief explanations of the point with reference to school discipline outcomes may be found in my “[Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies](#),” *Amstat News* (Dec. 2012), and “[Things government doesn’t know about racial disparities](#),” *The Hill* (Jan. 28, 2014).

³ The following subpages of the [Discipline Disparities](#) page of [jpscanlan.com](#) discuss situations coming to my attention in studies or media reportage where, in the jurisdictions indicated in the titles of the subpages, general reductions in discipline rates were accompanied by increased relative racial/ethnic differences in discipline rates: [California Disparities](#), [Colorado Disparities](#), [Connecticut Disparities](#), [Florida Disparities](#), [Massachusetts Disparities](#), [Minnesota Disparities](#), [Oregon Disparities](#), [Rhode Island Disparities](#), [Utah Disparities](#), [Beaverton, OR Disparities](#), [Denver Disparities](#), [Henrico County, VA Disparities](#), [Kern County \(CA\) Disparities](#), [Los Angeles SWPBS](#), [Loudoun County \(VA\) Disparities](#), [Milwaukee Disparities](#), [Minneapolis Disparities](#), [Montgomery County, MD Disparities](#), [Portland, OR Disparities](#), [St. Paul Disparities](#), [South Bend Disparities](#), [Urbana Disparities](#). Often the studies or reportage discussed the observed patterns in terms reflecting the view that general reductions in discipline rates should have reduced or eliminated relative racial/ethnic differences. In no cases did the studies or reportage reflect an understanding of why the reductions would tend to increase relative racial/ethnic differences.

⁴ The embedded link will take the readers to the version of the article on the *Daily Record* website, where a subscription may be required to read the article. A version on my website ([jpscanlan.com](#)) may be accessed by this link: http://jpscanlan.com/images/Discipline_disparities_in_Md_schools.pdf

As discussed in the *Daily Record* commentary, the study showed that general reductions in out-of-school suspension in Maryland between the 2008-09 and 2013-14 school years had been accompanied by an increase in the ratio of the statewide black suspension rate to the statewide white suspension rate.⁵ But the most compelling aspect of the study was its appendix showing that in 21 of the 23 Maryland school districts for which data on black and overall suspension rate reductions could be analyzed, during the period of general reductions in suspensions between the 2008-09 and 2013-14 school years, the overall suspension rate underwent a larger percentage decrease than the black suspension rate. That the overall percentage decrease was larger than the black percentage decrease means that the ratio of the black suspension rate to the non-black suspension rate increased. While the ratio of the black suspension rate to the non-black suspension rate is not same thing at the ratio of the black suspension rate to the white suspension rate in districts where some students are neither black nor white, the ratios will usually change in the same direction. Thus, this study provides a systematic demonstration that, while generally reducing discipline rates may not always lead to an increase in relative racial differences in discipline rates, it will commonly do so in the great majority of cases.

Attachment D hereto, which is my June 8, 2018 [letter](#) to the directors of the Maryland Equity Project and the College of Education's Measurement, Statistics and Evaluation Program, discusses the study more fully, as well as a more recent Maryland Equity Project study that fails to recognize that generally reducing an outcome tends to increase, rather than reduce, relative racial and other demographic differences in rates of experiencing the outcome.

In the 2013 *Baltimore Sun* commentary, as well the references in note 2 *supra*, each of Attachments A through C, and many other places, I have illustrated the pertinent statistical pattern with hypothetical test score data showing that lowering a cutoff, while tending to reduce relative differences between the pass rates of a higher- and lower-scoring group, tends to increase relative differences between the groups' failure rates. I suggest that this illustration is particularly useful for an organization involved in the monitoring of educational outcomes, and I urge MSDE to explore with its staff whether they yet understand that lowering a cutoff for any favorable educational outcome (or generally improving education) tends to increase relative differences in rates of failure to reach the cutoff at the same time that it reduces relative differences in rates of reaching the cutoff.

But the discipline context provides what may be an even easier to understand illustration of the effects of relaxing standards and other actions aimed at generally reducing an adverse outcome on relative demographic differences in rates of experiencing the outcome. According to the U.S. Department of Education's most recent data release (covering the 2013-14 school year), in Maryland, the ratio of the black rate of receiving one or more suspensions to the white rate of receiving one or more suspension was 3.3, while the ratio of the black rate of receiving multiple suspensions to the white rate or receiving multiple suspensions was 4.5. Nationally those ratios

⁵ The relative difference between two rates is (a) the ratio of the two rates minus 1 when the larger of the two rates is used as the numerator of the ratio and (b) 1 minus the ratio of the two rates when the smaller of the two rates is used in the numerator of the ratio.

are 4.0 and 5.2, and in all but five states the ratio for multiple suspension is larger than the ratio for one or more suspensions.

If all students are given a reprimand instead of what would otherwise be their first suspension, the ratio of the black rate of receiving one or more suspensions to the white rate of receiving one or more suspensions will tend to look like what is now the ratio for multiple suspensions. That is, the ratio will tend to go up, not down. Similar patterns can be expected when standards are relaxed such as to require more serious misconduct or increased instances of the same misconduct before administrators resort to out-of-school suspension as a means of dealing with the misconduct.

The point may be compared to that illustrated in Tables 4 and 5 of Attachment A, Tables 2 and 3 of Attachment B, and Table 2 of Attachment C.⁶ Similar data on criminal justice outcomes illustrate why diversion programs, such as are envisioned in the Baltimore Police Department consent decree, will tend to increase, not reduce, the measures of racial differences in criminal justice outcomes commonly employed by the federal government. See my "[The misunderstood effects of the Baltimore police consent decree](#),"⁷ *Daily Record* (Feb. 15, 2018), and "[United States Exports Its Most Profound Ignorance About Racial Disparities to the United Kingdom](#)," Federalist Society Blog (Nov. 2, 2017). See also my "[Mired in Numbers](#)," *Legal Times* (Oct. 12, 1996).

The failure to understand the aforementioned pattern and other patterns by which measures tend to be affected by the prevalence of an outcome, and the implication of that failure with respect to analyses of demographic differences in the law and the social and medical sciences, are explained more fully in my "[Race and Mortality Revisited](#)," *Society* (July/Aug. 2014), and my [Comments for Commission on Evidence-Based Policymaking](#) (Nov. 14, 2016). Many graphical and tabular illustrations of the patterns may be found in the October 10, 2014 methods workshop I gave at the University of Maryland's Maryland Population Research Center titled "[Rethinking the Measurement of Demographic Differences in Outcome Rates](#)" (abstract).⁸

⁶ Those tables are based on data presented in March 2014 U.S. Department of Education publication titled "[Data Snapshot: School Discipline](#)" on students receiving single suspensions and students receiving multiple suspensions. But the information provided allows one to derive information on students receiving one-or more suspensions. In the agency's March 2016 publication on school discipline titled "[2013-2014 Civil Rights Data Collection – A First Look](#)," the agency no longer presented data on single suspensions, but included information on single suspensions within the category of "one or more suspensions." See Section D *infra* regarding the impossibility of analyzing data on demographic differences in rates of single suspensions.

⁷ As with the more recent *Daily Record* commentary, the embedded link is to a version that may require a subscription to read. A version on my website may be found at:
[http://jpscanlan.com/images/Misunderstood effects of Baltimore police consent decree Feb. 16, 2018 .pdf](http://jpscanlan.com/images/Misunderstood%20effects%20of%20Baltimore%20police%20consent%20decree%20Feb.%2016,%202018.pdf)

⁸ Similar workshops at arms of other universities include: "[The Mismeasure of Health Disparities in Massachusetts and Less Affluent Places](#)," Quantitative Methods Seminar, Department of Quantitative Health Sciences, University of Massachusetts Medical School (Nov. 18, 2015) (abstract); "[The Mismeasure of Discrimination](#)," Center for Demographic and Social Analysis, University of California, Irvine (Jan. 20, 2015); "[The Mismeasure of Demographic Differences in Outcome Rates](#)" Public Sociology Association of George Mason University (Oct. 18,

B. The Obligation of MSDE to Correct Misunderstandings It Has Promoted

There are serious consequences of leading school administrators and the public to believe that actions will tend to reduce measures of racial disparity when the actions are more likely to increase the measures. When actions that are supposed to reduce measures in fact increase them, observers who believe that substantial part of racial differences in discipline rates are due to racial bias (including students and parents who fear such bias) will tend to believe that bias must be increasing. And all observers will tend to believe that, whatever the nature of the problems causing racial or other differences in discipline outcomes, the problems must be increasing. Further, by assiduously implementing policies aimed at reducing adverse discipline outcomes, individual administrators increase the chances that they will be accused of discrimination.

Thus, in the July 17, 2017 letter to the Departments of Education, Health and Human Services (Attachment B), and the meeting with U.S. Department of Education staff where Attachment C was distributed, I maintained that the agencies had an obligation to correct the misunderstanding that they have promoted through Dear Colleague letters and otherwise. At the December 8, 2017 U.S. Commission on Civil Rights hearing at which Attachment A was presented, I suggested to the Commission that, given uncertainty as to whether the Departments of Education, Health and Human Services, and Justice would understand this issue or recognize the associated obligation to correct the misunderstanding they had promoted, the Commission itself should assume responsibility for clarifying the issue to the public. By letters of [April 12, 2018](#), and [April 17, 2018](#), I also suggested to the U.S. Government Accountability Office (GAO) that it had an obligation similar to that of the U.S. Departments of Education, Health and Human Services, and Justice, given that, among other things, GAO's recent release of a report on discipline disparities reflected the same misunderstanding of the effects of policies on measures of demographic differences that had been promoted by those agencies.

I suggest that MSDE, having similarly promoted the mistaken understanding as to the effects of policies on measures of racial and other demographic differences in school discipline outcomes, has a similar obligation to correct that misunderstanding. Further, given the federal government's longstanding failure to understand this issue, there is no reason for MSDE to assume that the federal government will now understand the subject or for MSDE to await any action from the federal government before undertaking to ensure that MSDE staff fully

2014; [“The Mismeasure of Association: The Unsoundness of the Rate Ratio and Other Measures That Are Affected by the Prevalence of an Outcome,”](#) Minnesota Population Center and Division of Epidemiology and Community Health of the School of Public Health of the University of Minnesota (Sept. 5, 2014); [“The Mismeasure of Group Differences in the Law and the Social and Medical Sciences,”](#) Institute for Quantitative Social Science at Harvard University (Oct. 17, 2012); [“The Mismeasure of Group Differences in the Law and the Social and Medical Sciences,”](#) Department of Mathematics and Statistics of American University (Sept. 25, 2012).

understand the issue and to correct misunderstandings that the agency has promoted among school administrators and the public.⁹

C. The Need for MSDE to Rethink the Analysis of Group Differences Involving Adverse and Corresponding Favorable Educational Outcomes

Implicit or explicit in the discussion in Section A and the materials referenced there, the relative difference (or associated risk ratio), either for an adverse outcome or for the corresponding favorable outcome, is an unsound measure of association. But almost invariably, regardless of the measure employed, analyses of demographic differences involving outcome rates are unsound and misleading as a result of the failure to recognize patterns by which the measures employed tend to be affected by the prevalence of an outcome.

I explain this larger issue at considerable length in the above-referenced "Race and Mortality Revisited," the November 14, 2016 comments for the Commission on Evidence-Based Policymaking, and the October 2014 University of Maryland workshop. I provide a summary of the principal issues involving educational outcomes in "[Innumeracy at the Department of Education and the Congressional Committees Overseeing It](#)," Federalist Society Blog (Aug. 24, 2017). See also my "[The Mismeasure of Health Disparities](#)," *Journal of Public Health Management and Practice* (July/Aug. 2016), and "[Measuring Health and Healthcare Disparities](#)," Proceedings of the Federal Committee on Statistical Methodology 2013 Research Conference (Mar. 2014), regarding fundamental problems in health and healthcare disparities research as a result of the failure to address the effects of the prevalence of an outcome on the measures employed. See also pages 2-4 of the July 17, 2017 letter to the Departments of Education, Health and Human Services, and Justice urging the agencies to cease funding research that fails to consider the ways the measures employed tend to be affected by the prevalence of an outcome.

Thus, in the November 14, 2016 Comments for the Commission on Evidence-Based Policymaking, and in an April 13, 2017 [letter](#) to Attorney General Jeff Sessions, I urged the federal government to form a committee to study the way analyses of demographic differences involving outcome rates are unsound and to develop sound methods for such analyses. And, through a variety of avenues, I am continuing to press arms of the federal government to take similar actions.

⁹ The March 2014 study of discipline disparities Maryland that was funded by the U.S. Department of Education's Institute for Education Sciences ("Disproportionality in school discipline: An assessment of trends in Maryland, 2009-12"), which is discussed in the recent *Daily Record* commentary, is among the documents that the materials distributed at the March 22, 2018 U.S. Department of Education meeting (at page 11) specifically urged the agency to withdraw. For the document, like other documents produced or funded by the agency, erroneously implied that general reductions in discipline rate should reduce relative racial differences in discipline rates.

But there is no assurance that in the foreseeable future arms of the federal government will show themselves to be capable of understanding and addressing these issue, even as to matters where their current understanding of the effect of policies on measures of demographic difference is the opposite of reality. Thus, I urge MSDE, alone or in conjunction with other arms of the State of Maryland, to form a committee to address these issues, and to do so without awaiting guidance from the federal government.

D. Some Technical Issues Involving MSDE's January 2017 Guidance on Measuring Discipline Disparities

In light of the recommendation in Section C, I thought it would be useful to address certain technical issues with reference to the MSDE's January 2017 [*Reducing and Eliminating Disproportionality in School Discipline*](#). The points that follow are premised on the view that relative differences between rates and associated risk ratios are unsound measures of disproportionality, but that one may learn things about underlying processes and the forces causing outcome rates of advantaged and disadvantaged groups to differ based on rates at which such groups experience an outcome (through measures such as that discussed in "Race and Mortality Revisited" or the November 14, 2016 Comments for the Commission on Evidence-Based Policymaking or improvements thereon).

First, the January 2017 MSDE guide discusses demographic differences in rates of exclusionary discipline outcomes (termed "removal rates"), which include both out-of-school suspensions and expulsions. Analyses of demographic differences in exclusionary discipline should be based on such rates, though rates of expulsion can also be analyzed separately.

Often analyses of demographic differences regarding school discipline (and some other matters) are based on rates of what I sometimes term intermediate outcomes, such as in-school suspension or single suspensions. For reasons discussed in the [Discipline Disparities](#) page of [jpscanlan.com](#) and its [NEPC Colorado Study](#) subpage, as well as the [Intermediate Outcomes](#) subpage the [Scanlan's Rule](#) page of [jpscanlan.com](#), differences between rates at which advantaged and disadvantaged groups experience such outcomes cannot be usefully analyzed, just as differences in rates at which students from different groups receive grades of C cannot be usefully analyzed (though differences in rates at which they receive grades of C or below can be usefully analyzed).

In this regard, I note that the discussion in the earlier parts of this letter is based on rates of out-of-school suspension rather than rates of exclusionary discipline, including expulsion. I have commonly employed that approach because data on rates at which groups receive out-of-school suspensions are discussed in the studies and materials that I address, and because, compared with out-of-school suspensions, expulsions are too few for their omission from analyses to materially affect conclusions. See the tables on the Discipline Disparities page of [jpscanlan.com](#). Nevertheless, I think it important to keep in mind that the approach to identifying outcome rates in the 2017 MSDE document is the preferred approach and that in

many situations it is the only useful approach to examining demographic differences involving rates of experiencing or avoiding types of outcomes.¹⁰

Second, the 2017 document's risk ratio approach compares the removal rate of the subject group with the removal rate of all other students. But a disadvantaged group's rate should always be compared with an advantaged group's rate. Usually in the discipline context that involves comparing the black rate with the white rate (though in some situations it may involve comparing the black rate with the Hispanic rate, as in the situation discussed on the [Los Angeles SWPBS](#) subpage of the Discipline Disparities page) or comparing the Hispanic rate with the white rate.

There is no reason to confuse the matter by including all groups other than the disadvantaged group in the group to be compared with the disadvantaged group. Doing so causes settings with the same black and white rates (that is, for example, where the black rate is 15% in two settings and the white rate is 5% in the settings) to appear different from each other merely because Hispanics (who commonly have adverse discipline outcome rates that are higher than white rates though lower than the black rates) make up a larger proportion of students in one setting than the other setting. The approach also causes differences between Hispanic rates and white rates not to be observed in settings where African Americans make up a substantial proportion of students.¹¹

Third, while the 2017 document does not discuss disproportionality in terms of the difference between the proportion a group makes up of students and the proportion the group makes up of students experiencing an outcome, such comparisons are common, as in the GAO's March 2018 report [K-12 Education, Discipline Disparities for Black Students, Boys, and Students with Disabilities](#) and many U.S. Department of Education analyses. But, while one may be able to effectively analyze group differences on the basis of rates at which two groups experience an outcome, one can never effectively analyze group differences on the basis of the difference between the proportion a group makes up of persons potentially experiencing an outcome and the proportion the group makes up of persons actually experiencing the outcome. See Section I.C (at 39-41) of the November 14, 2016 Comments for the Commission on Evidence-Based Policymaking (at 39-41) and slides 98 to 108 of the University of Maryland workshop. See also Section C (at 23-26) of my "[The Mismeasure of Discrimination](#)," Faculty Workshop, University of Kansas School of Law (Sept. 20, 2013) and Section I.B (at 23-27) of my amicus curiae [brief](#) in *Texas Department of Housing and Community Development, et al. v. The Inclusive Communities Project, Inc.*, Supreme Court No. 13-1731 (Nov. 17, 2014). See also

¹⁰ In order to be completely clear, I emphasize that this point goes to the January 2017 guide's approach to identifying rates at which advantaged and disadvantaged groups experience an outcome of interest, not the guide's method of analyzing differences between such rates.

¹¹ Similar issues exist with respect to the guide's comparisons of a group's rate in a particular setting with an overall rate for the entire state. I do not discuss those issue, however, because, in my view, such comparisons can provide little of value in any case.

Karen B. Salmon, Ph.D., State Superintendent of Schools
Miya T. Simpson, Ph.D., Executive Director of the State Board of Education
June 26, 2018
Page 9

note 4 (at 4-5) of my April 11, 2018 [letter](#) to GAO and the [Loudoun County \(VA\) Disparities](#) subpage of the Discipline Disparities page.

The above points are based on only cursory examination of the January 2017 MSDE guide. But I suggest that the points are nevertheless things MSDE should consider in revision of that document and in other actions MSDE may take to improve its analyses of demographic differences in school discipline and other educational outcomes.

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

Attachments

Measuring Discipline Disparities

James P. Scanlan

(Statement Prepared for U.S. Commission on Civil Rights Briefing “The School to Prison Pipeline: The Intersection of Students of Color with Disabilities” (Dec. 8, 2017))

Federal government policy regarding racial differences in school discipline outcomes has been consistently based on the belief that relaxing discipline standards and otherwise reducing adverse discipline outcomes will tend to reduce (a) relative (percentage) racial differences in rates of experiencing the outcomes and (b) the proportions African Americans and other racial minorities make up of persons experiencing the outcomes. In fact, exactly the opposite is the case.

By way of clarification, if the minority suspension rate is 15% and the white rate is 5%, the ratio of the minority rate to the white rate would be 3.0. That is, the minority rate is 200% greater than the white rate. The 200% figure is the relative, or percentage, difference. In the same situation, assuming minorities are 20% of students, they would be 43% of suspended students.

Federal policy has been based on the belief that activities that generally reduce suspensions (like Positive Behavioral Interventions & Support (PBIS) programs) will tend to reduce the 3.0 ratio and the 43% proportion figures. In fact, such activities will tend to increase those figures.

Test Score Illustration

Table 1 provides a simple illustration of why this is the case. The table is based on hypothetical test scores of higher- and lower- scoring groups (which are denominated AG for advantaged group and DG for disadvantaged group).

The first row of the table shows the pass rates for the two groups at a particular cutoff. The pass rates are 80% for AG and 63% for DG. Thus, AG’s pass rate is 1.27 times (27% greater than) DG’s pass rate.¹

¹ While I commonly refer to patterns of relative differences in this statement, the table actually presents rate ratios (also termed risk ratios or relative risks). The relative difference is the rate ratio minus 1 where the rate ratio is above 1 and 1 minus the rate ratio where the rate ratio is below one. In the former case, the larger the rate ratio, the larger the relative difference; in the latter case, the smaller the rate ratio, the larger the relative difference. It is more common to employ the disadvantaged group’s rate as the numerator for the favorable as well as the adverse outcome, which is the approach as to favorable outcomes of the “four-fifths” or “80 percent” rule for identifying disparate impact under the Uniform Guideline for Employee Selection Procedures. I have sometimes employed this approach, as in “Can We Actually Measure Health Disparities?,” *Chance* (Spring 2006) (http://www.jpscanlan.com/images/Can_We_Actually_Measure_Health_Disparities.pdf). More recently, however, I have usually used the larger figure as the numerator for both rate ratios, in which case, as to both favorable and adverse outcomes, the larger the rate ratio, the larger the relative difference. Choice of numerator in the rate ratio, however, has no bearing the patterns described here whereby measures tend to be affected by the prevalence of an outcome.

Table 1. Illustration of effect of lowering test cutoff on relative difference between pass rates of advantaged group (AG) and disadvantaged group (DG)

Cutoff	AG Pass Rate	DG Pass Rate	AG/DG Pass Ratio
1 High	80%	63%	1.27
2 Low	95%	87%	1.09

The second row shows what would happen if the cutoff is lowered to the point where AG’s pass rate is 95%. Assuming normal test score distributions, DG’s pass rate would be about 87%. With the lower cutoff AG’s pass rate would be only 1.09 times (9% greater than) DG’s pass rate. The fact that lowering a cutoff tends to reduce relative differences in pass rates is the reason why lowering a test cutoff is universally regarded as reducing the disparate impact of tests on which some groups outperform others.

At this point it may seem that I have contradicted my point at the outset. But, whereas lowering a cutoff tends to reduce relative differences in pass rates, it tends to increase relative differences in failure rates. This pattern is illustrated in Table 2. The table presents the same information as Table 1, but with the failure rates of the two groups added, along with the ratio of DG’s failure rate to AG’s failure rate (in the final column). The column with the rate ratios for test passage is highlighted in blue and the column with the rate ratios for test failure is highlighted in red.

Table 2. Illustration of effect of lowering test cutoff on (a) relative difference between pass rates and (b) relative difference between failure rates of advantaged group (AG) and disadvantaged group (DG)

Cutoff	AG Pass Rate	DG Pass Rate	AG Fail Rate	DG Fail Rate	AG/DG Pass Ratio	DG/AG Fail Ratio
1 High	80%	63%	20%	37%	1.27	1.85
2 Low	95%	87%	5%	13%	1.09	2.60

The final (red highlighted) column shows that with the initial cutoff DG’s failure rate was only 1.85 times (85% greater than) AG’s pass rate. With the lower cutoff, DG’s failure rate is 2.60 times (160% greater than) AG’s failure rate.

That is, as the prevalence of test passage and test failure generally changed as a result of lowering the cutoff, the relative difference in the increasing side of the dichotomy (test passage) decreased and the relative difference in the decreasing side of the dichotomy (test failure) increased.

As suggested at the outset, appraisals of discipline disparities issue sometimes focus on the proportions racial minorities make up of persons disciplined (compared with the proportions such groups make up of students). Patterns of changes in the proportions groups make up of persons experiencing either of the two outcomes as the prevalence of the outcomes changes are corollaries to the patterns shown in Table 2.

Table 3 is the same as Table 2, but with two more columns added on the right. These columns show the proportions DG makes up of persons who pass the test (highlighted in blue) and persons who fail the test (highlighted in red) in circumstances where DG makes up 50% of persons who take the test.

Table 3. Illustration of effect of lowering test cutoff on (a) relative difference between pass rates and (b) relative difference between failure rates of advantaged group (AG) and disadvantaged group (DG) and proportion DG makes up of (c) persons who pass the test and (d) persons who fail the test (where DG makes up 50% of test takers)

Cutoff	AG Pass Rate	DG Pass Rate	AG Fail Rate	DG Fail Rate	AG/DG Pass Ratio	DG/AG Fail Ratio	DG Prop of Pass	DG Prop of Fail
1 High	80%	63%	20%	37%	1.27	1.85	44%	65%
2 Low	95%	87%	5%	13%	1.09	2.60	48%	72%

The penultimate column shows that lowering the cutoff causes the proportion DG makes up of persons who pass the test to increase from 44% to 48%. That would reduce the difference between the proportion DG makes up of persons who take the test and the proportion it makes up of persons who pass the test.

But the final column shows that lowering the cutoff also increased the proportion DG makes up of persons who fail the test, from 65% to 72%. That would increase the difference between the proportion DG makes up of persons who take the test and the proportion DG makes up of persons who fail the test.

These patterns are not peculiar to test score data or the numbers I used to illustrate them. Rather, changing the frequencies of virtually any outcome and its opposite tends to cause the relative difference in the increasing outcome to decrease and the relative difference in the decreasing outcome to increase (with related effects on the proportions groups more susceptible to the outcomes make up of persons who experience the increasing outcome and the decreasing outcome).

This will not invariably happen with the consistency that will be observed with hypothetical test score data. For many factors are at work. But it will typically happen, especially when the changes in the prevalence of an outcome are substantial. In the school discipline context in particular, generally reducing discipline rates, while tending to reduce relative racial differences in rates of avoiding discipline (analogous to test passage), will tend to increase relative racial differences in rates of being disciplined (analogous to test failure). And in fact that is being observed all across the country as school districts have been generally reducing discipline rates while mistakenly believing that doing so should reduce relative racial differences in discipline rates (or the proportions racial minorities make up of student who are disciplined).²

² See page 8 of my July 17, 2017 letter to the Departments of Education, Health and Human Services, and Justice. http://www.jpscanlan.com/images/Letter_to_Departments_of_Education,_HHS,_and_Justice_July_17,_2017_.pdf

Attachment A: Statement of J Scanlan for Comm. on Civil Rights (Dec. 8, 2017)

It is important to recognize that the situation is not one where the government has reasoned that, while the above-described patterns will be found in test score data, there are reasons why the patterns will not ordinarily be found in other situations. Rather, despite dealing with issues about demographic differences in test outcomes for half a century, the government has failed even to understand that lowering a test cutoff tends to increase relative differences in failure rates.

It is also important to understand that an increase in the relative difference in the adverse outcome does not mean that a disparity has increased in some meaningful sense any more than the reduction in the relative difference in the favorable outcome means that a disparity has decreased in a meaningful sense. Rather, the problem is that neither relative difference is a useful indicator of the strength of the forces causing the outcome rates of two groups to differ (or, as we might otherwise put it, the size of the difference in the circumstances of two groups reflected by their outcome rates). That is quite important to recognize as we endeavor to understand the causes of disparities and determine whether they are growing larger or smaller over time or are larger in one setting than another.

Still focusing on either Table 2 or Table 3 (though the former is somewhat simpler), one may think of the pass and fail rates as reflecting any favorable and adverse outcome rates that result from decisions of individual decision-makers. In the school discipline context, consider the failure rates as if they are the suspension rates of minorities and whites and the pass rates as if they are the groups' rates of rates of avoiding suspension. To the extent that bias on the part of decision-makers contributes to the differences between rates, any actions that reduce that bias will tend to reduce all measures of racial differences between favorable or adverse outcomes.

At the same time, however, simple reductions in adverse discipline outcomes, such as those resulting from PBIS programs, will tend to change the measures of difference in the manner reflected in the tables. Thus, in consequence of general reductions in discipline rates, a school district that substantially reduces suspension rates will tend to show a pattern of changing measures of differences in outcome rates akin to that found in movement from the first row to the second row of the two tables.

In circumstances where decision-makers, including teachers and administrators, are being encouraged to generally reduce suspension rates, all other things being equal, the results for decision-makers who do not try very hard to reduce suspension rates will tend to look more like the first row than the second row. The results for decision-makers who try very hard to reduce suspension rates will tend to look more like the second row than the first row.

Thus, consider a situation where the two rows reflect the results of actions of two different decision-makers and an effort is made to determine which decision-maker is more likely to have made racially biased decisions. One would reach opposite conclusions depending on whether one examined relative differences in the favorable outcome or relative differences in the adverse outcome. In fact, however, there is no rational basis for distinguishing between the two rows with regard to the question of which is more likely to reflect the results of biased decisions.

It should be evident that it is essential for school administrators endeavoring to address discipline disparities issues, and those monitoring those efforts and otherwise attempting to ensure equal

treatment for all groups, to understand these patterns. Yet the situation is not simply that virtually no one involved in such efforts understands these patterns; rather, virtually everyone involved in such efforts proceeds on a belief about the effects of generally reducing discipline rates on the measures most commonly employed in quantifying racial and other demographic disparities that is the opposite of reality.

Illustration of the Effects of Substituting a Reprimand for What Would Otherwise Be a First Suspension on Proportions More Susceptible Groups Make up of Persons Suspended

Data made available in Department of Education reports provide other simple illustrations of the effects of generally reducing adverse discipline outcomes rates on measures of racial or other demographic differences in discipline outcomes.

Tables 4 and 5 are based on data from a March 21, 2014 Department of Education report titled “Data Snapshot: School Discipline.”³ The data in the report enable one to determine the proportions demographic groups make up of K-12 and preschool students who are suspended (a) one or more times and (b) two or more times.⁴

Table 4. Illustration of effect of giving all students a reprimand instead of their first suspension on proportion African Americans make up of K-12 and preschool students receiving one or more suspensions

Setting	Number of Suspensions	AA Proportion of Students Experiencing the Outcome
K-12	One or more	37%
K-12	Two or more	43%
Preschool	One or more	44%
Preschool	Two or more	48%

Table 4 provides that information with regard to African American students in K-12 and preschool. The first row of the first set of two rows shows the proportion African Americans make up of K-12 students suspended one or more times (37%) and the second of those rows shows the proportion they make up of K-12 students suspended two or more times (43%). Suppose, then, that in every situation that otherwise would have resulted in a first suspension, the students were given a reprimand rather than a suspension. In such case, the figure in the second row would tend to become the figure for one or more suspensions. Thus, the 37% figure for the proportion African Americans make up of K-12 students suspended one or more times would tend to rise to 43%.

³ <https://www2.ed.gov/about/offices/list/ocr/docs/crdc-discipline-snapshot.pdf>

⁴ The document provided information on the proportions demographic groups made up of K-12 and preschool students suspended one time and suspended multiple times. From the information provided in the report, one can then determine the proportions the groups made up of persons suspended (a) one or more times and (b) two or more times.

The second two rows of the table provide a similar illustration for preschool. In this setting, giving students a reprimand instead of their first suspension would tend to cause the proportion African Americans make up of students suspended one or more times to increase from 44% to 48%.

Table 5 presents the same type of information for boys, who commonly have higher suspension rates than girls and thus commonly make up a larger proportion of suspended students than the approximately 50% that they make up of all students. Here, too, the Department of Education data show that in both K-12 and preschool, giving students a reprimand rather than what would otherwise be their first suspension would tend to increase the proportion boys (the group more susceptible to suspension) make up of students suspended one or more times.

Table 5. Illustration of effect of giving all persons a reprimand instead of their first suspension on proportion boys make up of K-12 and preschool students receiving one or more suspensions

Setting	Number of Suspensions	Male Proportion of Students Experiencing the Outcome
K-12	One or more	70%
K-12	Two or more	72%
Preschool	One or more	80%
Preschool	Two or more	82%

Illustration of Effects of the Prevalence of Adverse Discipline Outcomes in Different Settings on Measures of Racial Disparity in Those Settings

I often describe the statistical pattern at work in the discipline context (and essentially every other context where disparities are quantified in terms of relative differences or measures that are functions of relative differences) as that whereby the rarer and outcome, the greater tends to be the relative difference in experiencing it and the smaller tends to be the relative differences in avoiding it. One important, though universally misunderstood, manifestation of that pattern is that in settings (or among subpopulations) where adverse discipline outcomes are comparatively uncommon, relative racial differences in rates of experiencing those outcomes will tend to be larger, while relative differences in the corresponding favorable outcome will tend to be smaller, than in settings where the outcomes are comparatively common.

Tables 6 and 7 are based on data from the Massachusetts and Loudoun County, Virginia. Both are areas where policymakers or others have expressed concern that, though the areas have comparatively low suspension rates, relative racial differences or other measures of racial differences in suspensions are comparatively high.

The two tables may be compared to Table 2 above (save that they do not show the rates at which the two groups avoid suspension, the equivalent of test passage) with columns reordered to be more consistent with the way the issues are commonly discussed (and with the same color-coding for the rate ratios for the adverse and favorable outcomes). But I have added an additional column at the end termed EES, for estimated effect size. This column presents a measure of the strength of the forces causing outcome rates of two groups to differ that is theoretically unaffected by the prevalence of an outcome. I describe it (and its strength and weaknesses) in my “Race and Mortality Revisited,” *Society* (July/Aug. 2014)⁵ and various other places.

Table 6: Out-of-school suspension rates for African American and white students in Massachusetts and nationally in 2012-2013, with measures of difference

Area	AA Rate	White Rate	AA/White Ratio-Susp	White/AA Ratio - No Susp	EES
Massachusetts	10.0%	2.7%	3.70	1.08	0.65
National	16.4%	4.6%	3.57	1.14	0.71

Table 6 shows the common patterns whereby the setting with comparatively low suspension rates (Massachusetts compared with national figures) shows larger relative differences in suspension rates, but smaller relative differences in rates of avoiding suspension, than are found nationally. The EES figures – .65 in Massachusetts and .71 nationally – indicate that the forces causing suspension rates of African American and white students to differ (whatever those forces may be) are weaker in Massachusetts than nationally.⁶

Table 7 presents similar information from schools in Loudoun, County Virginia (an affluent suburb of Washington, DC), where suspension rates are very low. In this case, the concern about large racial disparities was prompted by the comparatively high ratio of the proportion African Americans made up of suspended students to the proportion they made up of students.⁷

⁵ http://jpscanlan.com/images/Race_and_Mortality_Revisited.pdf

⁶ These data and similar data relating to students with disabilities are discussed more fully in my November 12, 2017 letter to the Boston Lawyers’ Committee for Civil Rights and Economic Justice. http://jpscanlan.com/images/Letter_to_Boston_Lawyers_Committee_Nov._12,_2015_.pdf

⁷ That areas with low African American representation among students tend to have higher such ratios than other areas even when the areas have same suspension rates for African American students and for other students is among a number of reasons beyond the statistical patterns addressed here that comparisons of the proportion a group makes up of persons potentially experiencing an outcome and the proportion the group makes up of persons actually experiencing the outcome cannot effectively quantify the forces causing outcome rates of advantaged and disadvantaged groups to differ. See references in the succeeding note. See also the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page of jpscanlan.com. <http://jpscanlan.com/disciplinedisparities/ideadatacenterguide.html>

The ratio African American suspension rate to the white suspension rate is actually slightly lower in Loudoun County than nationally, while the relative difference in rates of avoiding suspension is much lower in Loudoun County than nationally. The EES figures – .55 in Loudoun County and .71 nationally – indicate that the forces causing suspension rates of African American and white students to differ are considerably weaker in Loudoun County than nationally.⁸

Table 7: Out-of-school suspension rates for African American and white students in Loudoun County (VA) Public Schools and nationally in 2012-2013, with measures of difference

Area	AA Rate	White Rate	AA/White Ratio-Susp	White/AA Ratio - No Susp	EES
LCPS	4.65%	1.3%	3.54	1.04	0.55
National	16.4%	4.6%	3.57	1.14	0.71

Neither Massachusetts nor Loudoun County has any idea that to the extent that racial disparities in school discipline can be effectively measured, their disparities are smaller, not larger, than nationally. Nor do they have any idea that the actions to generally reduce discipline rates that they see as means of reducing the measures of racial disparity that are causing them concern will in fact tend to increase those measures.

Table 8, which is based on Table 8 of the aforementioned "Race and Mortality Revisited," is similar to Tables 6 and 7. But rather than comparing figures from a particular geographic area with national figures, Table 8 compares figures in preschool (where suspensions are comparatively rare) with figures from K12 (where suspensions are much more common). The table presents figures on multiple suspensions, which is the outcome respecting which racial disparities received the greatest attention when racial disparities in preschool suspensions first received substantial attention in 2014.⁹

⁸ These data are discussed more fully in the Loudoun County (VA) Disparities subpage of the Discipline Disparities page of [jpscanlan.com](http://jpscanlan.com/disciplinedisparities/loudounctydisparities.html) (<http://jpscanlan.com/disciplinedisparities/loudounctydisparities.html>). That subpage also discusses data showing that between the 2009-2010 and the 2013-2014 school years general reductions in suspension rates were accompanied by an increase in the relative differences between African American and white suspension rates and a decrease in the relative difference between African American and white rates of avoiding suspension, with negligible change in the EES. See also my September 5, 2017 letter explaining this issue to the Loudoun County School Board. [http://jpscanlan.com/images/Letter to Loudoun County Public Schools Sept. 5, 2017 .pdf](http://jpscanlan.com/images/Letter%20to%20Loudoun%20County%20Public%20Schools%20Sept.%205,%202017.pdf)

⁹ The facts receiving special attention in coverage of the issue were that African Americans were 18% of preschool children but 48% of preschool students receiving multiple suspensions. The figures in Table 8 are the suspension rates that can be derived from data in the previously mentioned Department of Education March 2014 document "Data Snapshot: School Discipline." The 18% and 48% figures were also highlighted in a March 21, 2014 Department of Education report titled "Data Snapshot: Early Childhood Education." <https://www2.ed.gov/about/offices/list/ocr/docs/crdc-early-learning-snapshot.pdf>

Table 8. African American and white rates of multiple suspensions in preschool and K-12, with measures of difference

Level	AA Mult Susp Rate	White Mult Susp Rate	AA/Wh Ratio Mult Susp	Wh/AA Ratio No Mult Susp	EES
Preschool	0.67%	0.15%	4.41	1.01	.49
K12	6.72%	2.23%	3.01	1.05	.51

As will commonly be observed, Table 8 shows that in the setting where suspensions are less common (preschool) relative differences in multiple suspension rates are greater, while relative differences in rates of avoiding multiple suspensions are smaller, than in the setting where suspensions are more common (K-12). In this case, however, the EES figures are very similar suggesting that, whatever the forces causing African American and white suspension rates to differ, they are of approximately the same strength in the two settings.

Table 9 is based on data from a 2012 Department of Education report titled “Helping to Ensure Equal Access to Education: Report to the President and Secretary.”¹⁰ Data were provided only on the proportion African Americans make of students and expelled students overall and in zero tolerance schools. The actual expulsions rates were not available. But based on the data available, one can present those two proportions in each setting and derive therefrom the relative difference between the African American rate and the rate for all other students.

Table 9: Proportions African Americans make up of students and expelled students overall and in schools with zero tolerance policies, with ratio of the African American expulsion rate to the white expulsion rate

Setting	AA Proportion of Students	AA Proportion of Expulsions	AA/Non-AA Expulsion Ratio
Overall	18%	39%	2.91
Zero Tolerance Schools	19%	33%	2.10

In accordance with the pattern described above, the ratio of the African American expulsion rate to the expulsion rate of other students was higher where expulsions were presumably less common (overall) than in the setting where expulsions were presumably more common (zero tolerance schools). (I do not present an EES figure because one needs the actual expulsion rates to derive such figure.) There nevertheless continues to be a near universal belief that zero tolerance policies lead to larger relative racial differences in adverse disciplines outcomes (and larger African American proportions or persons experiencing those outcomes) than more lenient policies.

An understanding of these patterns is also essential to drawing sound inferences about processes based on the comparative size of disparities. Relative racial differences in suspension rates are commonly greater, while relative differences in rates of avoiding suspension are commonly smaller, among girls (where suspensions are less common) than among boys (where suspensions

¹⁰ <http://www2.ed.gov/about/reports/annual/ocr/report-to-president-2009-12.pdf>

are more common). Correspondingly, relative gender differences in suspension are commonly greater, while relative gender differences in rates of avoiding suspension are commonly smaller, among whites (where suspensions are less common) than among African Americans (where suspensions are more common). See the Discipline Disparities page of jpscanlan.com.¹¹

Similarly, relative racial differences in suspensions will commonly be greater, while relative differences in avoiding suspensions will commonly be smaller, among students without disabilities (where suspensions are less common) than among students with disabilities (where suspensions are more common). Correspondingly, relative differences between the suspension rates of students with and without disabilities will commonly be greater, while relative differences between rates at which such groups avoid suspension will commonly be smaller, among whites (where suspensions are less common) than among African Americans (where suspensions are more common).

One cannot draw inferences about processes on the basis that one of these disparities is larger than another, or otherwise usefully hypothesize about why any disparity is larger than another, without understanding the above-described and other patterns by which measures tend to be affected by the prevalence of an outcome.

Conclusion

The failure to understand the ways the prevalence of an outcome affects relative differences in rates of experiencing an outcome and relative differences in rates of avoiding the outcome is but part of a larger failure of the government (and the social science and statistical communities) to understand the ways standard measures of differences between outcome rates of advantaged and disadvantaged groups tend to be affected by the prevalence of an outcome. For more extensive treatment of that issue with regard to all analyses of demographic differences in outcome rates in the law and the social and medical sciences, see the aforementioned "Race and Mortality Revisited," my November 14, 2016 Comments for Commission on Evidence-Based Policymaking,¹² and my October 8, 2015 letter to the American Statistical Association.¹³ With regard to the way the larger failure has undermined Department of Education analyses of demographic differences regarding student outcomes apart from discipline, see my "Innumeracy at the Department of Education and the Congressional Committees Overseeing It," Federalist Society Blog (Aug. 24, 2017).¹⁴ See also the July 17, 2017 letter to the Departments of Education, Health and Human Services, and Justice mentioned in note 2 *supra*, which, in addition to advising the agencies of their obligations to correct prior guidance to school administrators as to the likely effects of generally reducing discipline rates on measures of discipline disparities, suggests that the agencies halt all funding of research into demographic

¹¹ <http://jpscanlan.com/disciplinedisparities.html>

¹² <https://www.regulations.gov/document?D=USBC-2016-0003-0135>

¹³ http://jpscanlan.com/images/Letter_to_American_Statistical_Association_Oct._8,_2015_.pdf

¹⁴ <http://www.fed-soc.org/blog/detail/innumeracy-at-the-department-of-education-and-the-congressional-committees-overseeing-it>

differences that fails to consider implications of the ways the measures employed tend to be affected by the prevalence of an outcome.

But the mistaken belief that generally reducing an adverse outcome should tend to reduce, rather than increase, relative differences in rates of experiencing the outcome (and the proportions groups more susceptible to the outcome make up of persons experiencing it) – which informs federal civil rights policies regarding criminal justice, lending, employment, and voter qualification, as well as school discipline – is an extreme example of the larger failure of understanding. And it has pernicious consequences. These include the many anomalies where by complying with government encouragements to relax standards and otherwise reduce adverse outcomes, entities covered by civil rights law increase the chances that the government will accuse them of discrimination. Similar anomalies exist in situations where individual actors who comply with their employers' instruction to reduce adverse outcomes increase the chances that their employees will accuse them of discrimination. Further, in contexts where actions that are supposed to be reducing measures of racial disparity are followed by increases in those measures, observers will conclude that the forces causing outcome rates to differ must be growing stronger, often prompting increasing distrust in the fairness of systems.

Such conclusions will not have a sound statistical basis. But so far very few people understand that.

James P. Scanlan
Attorney at Law
1529 Wisconsin Avenue, NW
Washington, D.C. 20007
(202) 338-9224
jps@jpscanlan.com

July 17, 2017

The Honorable Betsy DeVos
Secretary of Education
United States Department of Education
400 Maryland Avenue, SW
Washington, DC 20202

The Honorable Thomas E. Price, M.D.
Secretary of Health and Human Services
United States Department of Health and Human Services
200 Independence Avenue, SW
Washington, DC 20201

The Honorable Jeff Sessions
Attorney General
United States Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Re: Obligations of the Departments of Education, Health and Human Services, and Justice to Correct Their Erroneous Guidance Suggesting That Relaxing Discipline Standards Tends to Reduce, Rather Than Increase, (a) Relative Demographic Differences in Discipline Rates and (b) the Proportions Groups More Susceptible to Adverse Discipline Outcomes Make Up of Persons Experiencing the Outcomes

Dear Secretary DeVos, Secretary Price, and Attorney General Sessions:

The purpose of this letter to advise the Departments of Education (DOE), Health and Human Services (HHS), and Justice (DOJ) of an obligation to correct erroneous guidance the three agencies have been providing the public, policymakers, and school administrators regarding the relationship between the stringency of school discipline standards and racial and other demographic differences in discipline outcomes. At least since the early years of this decade DOE and DOJ have been promoting the belief that relaxing standards and otherwise reducing rates of suspension and other adverse discipline outcomes will tend to reduce (a) relative (percentage) racial and other demographic differences in rates of experiencing the outcomes and (b) the proportions more susceptible groups make up of persons experiencing the outcomes. In

December 2014, the Secretary of HHS, in a document titled “[Policy Statement on Expulsion and Suspension Policies in Early Childhood Settings](#)” (Policy Statement) and an associated [Dear Colleague Letter](#), joined the Secretary of Education in promoting the belief that generally reducing adverse discipline outcomes would tend to reduce (a) and (b).

In fact, generally reducing any outcome tends to increase both (a) and (b) as to the outcome. Thus, the agencies have been leading a wide range of persons and entities to believe something about an important matter that is the opposite of reality. In any situation where government agencies have provided misleading guidance to the public the agencies have an obligation to correct the misleading guidance. The obligation is heightened where, as here, the agencies represent themselves to have, or are assumed by the public to have, expertise in the matter.

I briefly explain below the pertinent statistical point, which I have recently also explained in an April 13, 2017 [letter](#)¹ to Attorney General Jeff Sessions and Acting Assistant Attorney General T. E. Wheeler, III (Sessions letter) and in other communications to DOJ attorneys. Before doing so, however, I make certain preliminary points regarding the relationship of the principal subject of this letter to larger subjects the agencies must address if they are to fulfill their missions in a responsible manner.

Preliminary points regarding the instant subject and the larger subjects the agencies must address

This letter focuses on a discrete matter that agency officials, once having focused on a statistical pattern recognized more than a decade ago by the National Center for Health Statistics, should understand both to be undebatable and to involve agency actions that are the antithesis of responsible government. Further, the matter is something the three agencies can immediately begin to address at least by a Dear Colleague Letter explaining that express or implied guidance in prior such letters was incorrect. The matter also is quite pressing because thousands of school administrators across the county are continually endeavoring to implement policies promoted by the government (or incorporated into agreements with the government) while relying on the government’s mistaken guidance as to the effects of those policies on the measures of demographic differences that the government employs.² Numerous state and local governmental authorities have already taken actions based on the government’s erroneous guidance and others are considering like actions.

¹ To facilitate consideration of issues raised in documents such as this I include links to referenced materials in electronic copies of the documents, in some cases, for the reader’s convenience, providing the links more than once. Such copies are available by means of the [Measurement Letters](#) page of [jpscanlan.com](#). If the online version of the letter is amended, such fact will be noted on the first page.

² The matters is particularly pressing in the case of the school districts acting pursuant to agreements with DOE where the agency’s failure of understanding has created situations in which the more the school districts (or parts thereof) endeavor to comply with the agreement the more likely it is that DOE will regard them to have violated the agreement. See my September 20, 2016 [letter](#) to Oklahoma City School District.

But the agencies should recognize that the failure of understanding of elementary statistics that has led the agencies to provide the aforementioned mistaken guidance is part of a larger failure of understanding on the part of the agencies regarding the ways measures commonly employed in the analyses of demographic differences tend to be affected by the prevalence of an outcome. As a result of the larger failure of understanding, virtually nothing the agencies have themselves done, or that has been done pursuant to grants and contracts awarded by the agencies, regarding the analyses of demographic differences involving outcome rates has been statistically sound. See, *e.g.*, my [Comments for Commission on Evidence-Based Policymaking](#) (Nov. 14, 2016) (first CEBP comments), “[The Mismeasure of Health Disparities](#),” *Journal of Public Health Management and Practice* (July/Aug. 2016), “[Race and Mortality Revisited](#),” *Society* (July/Aug. 2014), and “[Measuring Health and Healthcare Disparities](#),” Proceedings of Federal Committee on Statistical Methodology 2013 Research Conference (March 2014). See also my “[Will Trump Have the First Numerate Administration?](#)” Federalist Society Blog (Jan. 4, 2017), regarding prospects that the current administration will be able understand things about analyses of demographic differences that other administrations have failed to understand.

In the case of DOE, the larger failure of understanding has prevented the agency from conducting any useful analyses of whether racial differences in educational outcomes like retention in grade, graduation, proficiency, assignment to disabled status, and various other matters have increased or decreased over time. See the [Educational Disparities](#) page of [jpscanlan.com](#) and its subpages, my August 24, 2015 [letter](#) to the HHS Secretary Sylvia M. Burwell and DOE Secretary Arne Duncan (at 9-11), and my April 18, 2012 [letter](#) to DOE Secretary Arne Duncan and Assistant Secretary of Education for Civil Rights Russlyn Ali (at 4). For example, as proficiency rates generally improve, relative demographic differences in rates of achieving proficiency tend to decrease while relative differences in rates of failing to achieve proficiency tend to increase; as proficiency rates generally improve, absolute demographic differences between rates of achieving basic proficiency (where rates are often well above 50 percent) tend to decrease, while absolute differences between rates of achieving advanced proficiency (where rates usually are well below 50 percent) tend to increase.³ To my knowledge, nothing DOE or any entity assisting it has done regarding analyses of demographic differences involving outcome rates has reflected an awareness of these patterns. Thus, DOE should undertake a complete review of the soundness of the methods by which it has analyzed demographic differences and of the soundness of the guidance it has provided on this subject. The agency should also institute a moratorium on grants and contracts (and activities pursuant to grants and contracts already awarded) to which these measurement issues pertain.⁴

³ Examples of these patterns may be found in the [Education Trust Glass Ceiling Study](#) subpage of the [Educational Disparities](#) page of [jpscanlan.com](#).

⁴ A minimum requirement of federally-funded research on demographic differences in outcome rates should be a commitment of the researchers to attempt to address the implications of the effects of the frequency of an outcome on the measures employed in the research. See fourth recommendation of the [first CEBP comments](#) (at 47). But the measurement issues addressed in those comment are pertinent both to activities involving analyses of demographic differences and activities that, while not necessarily involving analyses of such differences, are based on mistaken understandings regarding effects of policies on measures of demographic differences. The latter include, for example, activities that are based on the mistaken belief that positive behavioral intervention and support programs will tend to reduce relative racial differences in discipline rates, as in the case of the \$1 million grant discussed in

In the case of HHS, as discussed in the references at the top of page 3, the larger failure of understanding has led to the expenditure of many billions of dollars in research into demographic differences in health and healthcare outcome that has yielded very little of value even when it has not been patently misleading. One of the many situations exemplary of the failures of understanding on the part of HHS and its arms is the following. The National Center for Health Statistics (NCHS) more than a decade ago recognized that, as health and healthcare improve relative differences in favorable health and healthcare outcomes and relative differences in the corresponding adverse outcomes tend to change systematically in opposite directions as the prevalence of an outcome changes; yet, so far as the published record reveals, no other arm of HHS has recognized that it is even possible for relative differences in a favorable health and healthcare outcome and relative differences in the corresponding adverse outcome to change in opposite directions as the prevalence of an outcome changes. To my knowledge, no health or healthcare disparities research conducted or funded by arms of HHS has considered whether an observed pattern of changes in a measure employed in the research was anything other than a function of the change in the prevalence of the outcome. See the first four references at the top of page 3 and my [“The Mismeasure of Health Disparities in Massachusetts and Less Affluent Places,”](#) Quantitative Methods Seminar, Department of Quantitative Health Sciences, University of Massachusetts Medical School (Nov. 18, 2015). The points in the last two sentences of the prior paragraph regarding DOE apply equally to HHS.

In the case of DOJ, the consequences of the larger failure of understanding are summarized to a degree in the Sessions letter and include many situations where the more an entity complies with DOJ guidance (or obligations imposed by decrees in suits brought by the DOJ) the more likely the entity is to be sued by DOJ (or found not to comply with decree-imposed obligations). See my [“Compliance Nightmare Looms for Baltimore Police Department,”](#) Federalist Society Blog (Feb. 8, 2017), [“Things DoJ doesn’t know about racial disparities in Ferguson,”](#) *The Hill* (Feb. 22, 2016), [“Things government doesn’t know about racial disparities,”](#) *The Hill* (Jan. 28, 2014), [“Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies,”](#) *Amstat News* (Dec. 2012). See also my [Comments on the Selection of Monitor of the Baltimore Police Consent Decree](#) (June 26, 2017) regarding the unlikelihood that the experts identified in the monitor proposals for the consent decree covering Baltimore Police practices understand the effects of reducing adverse criminal justice on measures of demographic differences any better than the government does.

Thus, each of the agencies has a responsibility to examine the problems in the analyses of demographic differences that it conducts or funds with an aim toward ensuring that future analyses are sound and that no further research, even on existing grants and contracts, continues to employ unsound methods. I may contact the agencies again regarding such matters. But there is no need for the agencies to await such contacts before examining the extent to which their failures to understand the ways measures tend to be affected by the prevalence of an outcome have undermined their activities.

Further, Section 5 of the Evidence-Policymaking Commission Act of 2016 imposes on each of the heads of DOE, HHS, and DOJ a responsibility to advise and consult with the Commission on Evidence-Based Policymaking regarding matters within the agency heads' areas of responsibility. Thus, the aforementioned reviews by DOE and HHS (and like actions suggested in the Sessions letter) should be conducted in a sufficiently timely fashion for the agencies to fulfill their responsibility to the Commission on Evidence-Based Policymaking before the Commission issues its report to Congress and the President this fall. I suggest that my comments for the Commission dated [November 14, 2016](#), and [November 28, 2016](#), provide the agencies a useful guide for advising the Commission as to the ways the agencies' missions have so far been undermined by the failure to understand the statistical patterns described in the comments.

Attention to these larger subjects, however, should not interfere with the agencies' fulfilling their responsibilities to immediately correct their guidance regarding the effects of relaxing discipline standards on measures of difference in school discipline outcomes.

Patterns by which restricting adverse outcomes to those most susceptible to them tends to increase measures of demographic differences as to the outcomes

For reasons related to the shapes of underlying distributions of factors associated with experiencing an outcome or its opposite, all standard measures of differences between outcome rates (*i.e.*, the proportions of demographic groups experiencing a binary outcome) tend to be affected by the frequency of an outcome. The pattern most pertinent here is that whereby the rarer an outcome, the greater tends to be the relative difference in experiencing it and the smaller tends to be the relative difference in avoiding it (*i.e.*, experiencing the opposite outcome). A corollary to this pattern is a pattern whereby the rarer an outcome, the greater tend to be the proportions groups most susceptible to the outcome make up of both persons who experience the outcome and persons who avoid the outcome.

The patterns can be easily illustrated with normally distributed test score data. Table 1 below, which is also Table 1 of the Sessions letter, shows the pass and fail rates of an advantaged group (AG) and a disadvantaged group (DG) at two cutoff points in a situation where the groups have normally distributed test scores with means that differ by half a standard deviation (a situation where approximately 31 percent of DG's scores are above the AG mean) and both distributions have the same standard deviation. The table also shows (in columns 5 through 8) measures that might be used to appraise differences in test outcomes of AG and DG.

Column 5, which presents the ratio of AG's pass rate to DG's pass rate,⁵ shows that at the higher cutoff, where pass rates are 80 percent for AG and 63 percent for DG, AG's pass rate is 1.27

⁵ While I commonly refer to patterns of relative differences in this letter, the table actually presents rate ratios (also termed risk ratios or relative risks). The relative difference is the rate ratio minus 1 where the rate ratio is above 1 and 1 minus the rate ratio where the rate ratio is below one. In the former case, the larger the rate ratio, the larger the relative difference; in the latter case, the smaller the rate ratio, the larger the relative difference. It is more common to employ the disadvantaged group's rate as the numerator for the favorable as well as the adverse outcome, which is the approach as to favorable outcomes of the "four-fifths" or "80 percent" rule for identifying

times (27 percent greater than) DG's pass rate. If the cutoff is lowered to the point where AG's pass rate is 95 percent, DG's pass rate would be about 87 percent. At the lower cutoff, AG's pass rate is only 1.09 times (9 percent greater than) DG's pass rate.

Table 1. Illustration of effects of lowering a test cutoff on measures of differences in test outcomes

Row	(1) AG Pass Rate	(2) DG Pass Rate	(3) AG Fail Rate	(4) DG Fail Rate	(5) AG/DG Pass Ratio	(6) DG/AG Fail Ratio	(7) DG Prop of Pass	(8) DG Prop of Fail
1	80%	63%	20%	37%	1.27	1.85	44%	65%
2	95%	87%	5%	13%	1.09	2.60	48%	72%

That lowering a cutoff tends to reduce relative differences in pass rates is well understood and underlies the widespread view that lowering a cutoff tends to reduce the disparate impact of tests on which some groups outperform others.

But, whereas lowering a cutoff tends to reduce relative differences in pass rates, it tends to increase relative differences in failure rates. As shown in column 6, initially DG's failure rate was 1.85 times (85 percent greater than) AG's failure rate. With the lower cutoff, DG's failure rate is 2.6 times (160 percent greater than) AG's failure rate.

Columns 7 and 8 show the proportions DG makes up of persons who pass and fail the test at each cutoff in a situation where DG makes up 50 percent of persons taking the test. Column 7 shows that lowering the cutoff increases the proportion DG makes up of persons who pass from 44 percent to 48 percent (hence, *reducing* all measures of difference between the proportions DG makes up of persons who took the test and persons who passed the test). Column 8 shows that lowering the cutoff increases the proportion DG makes up persons who fail the test from 65 percent to 72 percent (hence, *increasing* all measures of difference between the proportions DG makes up of persons who took the test and persons who failed the test).

The patterns reflected in Table 1 are not peculiar to test score data or the numbers I used to illustrate them. Rather, the patterns can be found in virtually any setting where two groups have different, more or less normal, distributions of factors associated with experiencing some outcome. Income and credit score data, for example, show how lowering an income or credit score requirement, while tending to reduce relative racial differences in meeting the requirement, will tend to increase relative racial differences in failing to meet the requirement. See Tables 2 and 3 of the Sessions letter. The information in the tables necessarily also means that lowering the requirements increases the proportions African Americans make up of persons who meet the

disparate impact under the [Uniform Guideline for Employee Selection Procedures](#). I have sometimes employed this approach, as in "[Can We Actually Measure Health Disparities?](#)," *Chance* (Spring 2006). More recently, however, I have usually used the larger figure as the numerator for both rate ratios, in which case, as to both favorable and adverse outcomes, the larger the ratio, the larger the relative difference. Choice of numerator in the rate ratio, however, has no bearing on the patterns by which as the frequency of an outcome changes, the two relative differences tend to change in opposite directions.

requirement and persons who fail to meet the requirement. Many other examples may be found in the longer references listed at the top of page 3, the scores of web pages on jpscanlan.com devoted to measurement issues, and the university methods workshops and conference presentations listed under the [Conference Presentations](#) subpage of the Publications page of jpscanlan.com.

The patterns are also evident in many types of data on school discipline outcomes, including data in DOE publications. Tables 2 through 5 below are based on data from a March 2014 DOE publication titled “[Data Snapshot: School Discipline](#).” The document provided information on the proportions demographic groups made up of K-12 and preschool students suspended one time and suspended multiple times. From the information provided in the report, one can then determine the proportions the groups made up of persons suspended (a) one or more times and (b) more than one time. Tables 2 and 3 present that information for black and male K-12 students and Tables 4 and 5 present the information for black and male preschool students.⁶

The tables illustrate the effects of relaxing standards in a way that would cause all students to receive a reprimand rather than what would otherwise be their first suspension. Such a modification would cause the proportion the indicated groups makes up of students with one or more suspensions to change from that in the first row to that in the second row. Thus, for example, as shown in Table 2, relaxing the standard in the manner indicated would cause the proportion African American students make up of K-12 students suspended one or more times to increase from 37 percent to 42 percent.

Table 2. Illustration of effect of giving all persons a reprimand instead of their first suspension on proportion black students make up of K-12 students suspended one or more times

Outcome	Black Proportion of K-12 Students Experiencing the Outcome
One or more suspensions	37%
Two or more suspensions	42%

Tables 3 shows a like pattern for male K-12 students, and Tables 4 and 5 shows like patterns for black and male preschool students.

⁶ Demographic differences in rates of experiencing things like single suspensions cannot be effectively analyzed, just as differences in rates of receiving grades of C or experiencing fair health cannot be effectively analyzed. See the [Intermediate Outcomes](#) subpage of the Scanlan’s Rule page of jpscanlan.com. It is possible that DOE has come to appreciate aspects of this issue. In DOE’s 2016 publication on school discipline titled “[2013-2014 Civil Rights Data Collection – A First Look](#),” the agency no longer presented data on single suspensions but included information on single suspensions within the category of “one or more suspensions.”

Table 3. Illustration of effect of giving all persons a reprimand instead of their first suspension on proportion male students make up of K-12 students suspended one or more times

Outcome	Male Proportion of K-12 Students Experiencing the Outcome
One or more suspensions	70%
Two or more suspensions	72%

Table 4. Illustration of effect of giving all persons a reprimand instead of their first suspension on proportion black preschool students make up of preschool students suspended one or more times

Outcome	Black Proportion of Preschool Students Experiencing the Outcome
One or more suspensions	44%
Two or more suspensions	48%

Table 5. Illustration of effect of giving all persons a reprimand instead of their first suspension on proportion male preschool students make up of preschool students suspended one or more times

Outcome	Black Proportion of Preschool Students Experiencing the Outcome
One or more suspensions	80%
Two or more suspensions	82%

If standards were further relaxed such that all persons were given reprimands for what would otherwise be their first two suspensions, the figures for the proportion black and male students make up of persons experiencing one or more suspensions would almost certainly rise still further. Rarely will one fail to observe such a pattern in circumstances where there are large numbers of observations.

In the school discipline context, in point of fact, one observes that all across the country recent reductions in discipline rates have been accompanied by increased relative racial/ethnic differences in discipline rates. See the following web pages discussing such patterns with respect to the jurisdictions indicated in the page titles: [California Disparities](#), [Colorado Disparities](#), [Connecticut Disparities](#), [Florida Disparities](#), [Maryland Disparities](#), [Minnesota Disparities](#), [Oregon Disparities](#), [Rhode Island Disparities](#), [Utah Disparities](#), [Beaverton, OR Disparities](#), [Denver Disparities](#), [Henrico County, VA Disparities](#), [Los Angeles SWPBS](#), [Minneapolis Disparities](#), [Montgomery County, MD Disparities](#), [Portland, OR Disparities](#), [St. Paul Disparities](#), [South Bend Disparities](#).⁷ These patterns are occurring notwithstanding that

⁷ These situations usually caught my attention as a result of press reportage of the fact that discipline rates had generally declined but racial disparities had increased, often while reflecting the mistaken belief that the general declines in discipline rates should have resulted in reductions in the racial disparity. Reportage that general declines in discipline rates were accompanied by decreased racial differences in discipline generally involves situations where the observers are measuring discipline disparities in terms of absolute differences between rates.

Attachment B: Letter from J Scanlan to Depts. of Education, HHS, and Justice (July 17, 2017)

The Honorable Betsy DeVos *et al.*

July 17, 2017

Page 9

school districts may well be doing many things beyond relaxing standards in attempting to reduce racial/ethnic differences in discipline rates.

See also (a) the [DOE Equity Report](#) subpage of the [Discipline Disparities](#) page of [jpscanlan.com](#) (regarding data in a November 2012 DOE Office of Civil Rights document titled "[Helping to Ensure Equal Access to Education: Report to the President and Secretary](#)") showing that, contrary to the agency's attribution of large relative differences in adverse discipline outcomes to zero tolerance policies, relative racial differences in expulsions are smaller in districts with zero tolerance policies than in districts without such policies) and (b) Table 8 of "Race and Mortality Revisited" (showing that relative differences in multiple suspensions are larger, though relative differences in avoiding multiple suspensions are smaller, in the setting where multiple suspensions are less common (preschool) than in the setting where multiple suspensions are more common (K-12)).

These patterns, of course, will not be observed in every case, since other factors will be at work. But that does not alter the fact that general reductions in discipline rates will tend to affect measures of demographic difference in ways that are the exact opposite of what the government has been leading school administrators and others to believe. Further, the effects of the misunderstanding promoted by the government are substantial, as teachers and administrators must struggle to explain to supervisors, oversight authorities, and the public (and, in the case of agreements with the DOE, to the DOE itself) why relaxing of standards are accompanied by effects on measures of disparity in adverse discipline outcome that are the opposite of what DOE and other government agencies have led them to expect.

In these circumstances, the obligation of the agencies to correct the misunderstandings it has promoted, and to do so as soon as possible, should be evident.⁸

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

⁸ One closely related matter that also requires early attention from DOE involves the agency's perceptions about the implications of the fact that students with disabilities make up a high proportion of persons subject to physical restraints. See the [Restraint Disparities](#) subpage of the [Discipline Disparities](#) page of [jpscanlan.com](#) regarding the agency's singling out of states based on the proportion students with disabilities make up of students physically restrained where the states the agency singles out favorably are those least likely to adhere to DOE guidance to employ physical restraints as a last resort, while the states the agency singles out unfavorably are those most likely to adhere to DOE guidance on the matter.

Materials for Meeting of Department of Education Staff with James Scanlan
(Mar. 22, 2018)

Issues (pages 1-2)

Illustrative Tables and Figures (pages 3-7)

Extended References (pages 8-11)

ISSUES

Issue 1:

Guidance by the Department of Education (DOE), as well as Departments of Justice (DOJ) and Health and Human Services (HHS), regarding school discipline policies has been premised on the belief that relaxing standards and otherwise generally reducing suspension rates will tend to reduce (a) the ratio of the African American suspension to the white suspension rate and (b) the proportion African Americans make up of suspended students. In fact, exactly the opposite is the case.

Recommendations for DOE action:

- a. Communicate (ideally in conjunction with DOJ and HHS) to school administrators, the public, and Congress (by Dear Colleague letters and otherwise) that prior guidance as to the effects of policies on measures of racial disparity was incorrect.
- b. Advise Congress of the ways statutes involving education and youth justice issues are premised on the mistaken belief that generally reducing adverse outcomes will tend to reduce the measures of disproportionality typically used by the government.
- c. Review all agreements with school districts to determine whether the agreements require modifications to practices that tend to increase (a) and (b) while contemplating measuring compliance in terms of reductions in (a) and (b).

Issue 2:

There exists a general failure of persons and entities analyzing demographic differences regarding rates at which advantaged and disadvantaged groups experience favorable or adverse outcomes to recognize the ways measures employed in such analyses tend to be affected by the prevalence (frequency) of the outcomes. Analyses of such differences and guides thereon have almost invariably been unsound and misleading because they have not addressed (a) the extent to which observed patterns of changes in a measures are functions of the change in the prevalence of the outcome and (b) the extent to which such patterns reflect something significant about underlying processes, including the effects of policies aimed at mitigating the comparative disadvantage of certain groups.

Recommendations for DOE action:

- a. Withdraw (or withdraw DOE association with) all research involving analyses of demographic differences that has attempted to quantify such differences, and all materials providing guidance on quantifying those differences, that have failed to consider the effects of the prevalence of an outcome on measures employed or discussed.

Attachment C: Materials distributed at meeting with Dept. of Education staff (Mar. 22, 2018)

b. Review all DOE research and research grants to determine whether they fail to address the implications of the effects of the prevalence of an outcome on the measures employed or discussed; halt all funding that cannot be shown to address those implications in a useful manner.

c. In conjunction with other agencies, form a committee to reform the analyses of demographic differences.

Key references (available on web by means of title search or on Measurement Letters page of jpscanlan.com):

Statement of James P. Scanlan Prepared for U.S. Commission on Civil Rights Briefing “The School to Prison Pipeline: The Intersection of Students of Color with Disabilities” (Dec. 8, 2017)

“Innumeracy at the Department of Education and the Congressional Committees Overseeing It,” Federalist Society Blog (Aug. 24, 2017)

Letter to United States Departments of Education, Health and Human Services, and Justice (July 17, 2017)

Comments of James P. Scanlan for Commission on Evidence-Based Policymaking (Nov. 14, 2016)

ILLUSTRATIVE TABLES AND FIGURES

Table 1. Illustration of effects of lowering a test cutoff on measures of differences in test outcomes of advantaged group (AG) and disadvantaged group (DG) (based on situation where groups are of equal size) (Table 1 of July 17, 2017 letter to DOE, HHS, DOJ)

Row	(1) AG Pass Rate	(2) DG Pass Rate	(3) AG Fail Rate	(4) DG Fail Rate	(5) AG/DG Pass Ratio	(6) DG/AG Fail Ratio	(7) DG Prop of Pass	(8) DG Prop of Fail
1	80%	63%	20%	37%	1.27	1.85	44%	65%
2	95%	87%	5%	13%	1.09	2.60	48%	72%

Table 1 illustrates that lowering a test cutoff – and thereby generally increasing pass rates and generally reducing failure rates – tends to *reduce* relative differences in pass rates (Column 5) and *increase* relative difference in failure rates (Column 6). Table also shows that lowering cutoffs tends to *increase* both the proportion DG makes up persons who pass (Column 7) and the proportion DG makes up of persons who fail (Column 8).

Considerations:

- Improving education in way that enables everyone scoring between the two cutoffs to reach the higher cutoff will have the same effect as lowering the cutoff.
- In circumstances where favorable and adverse outcome rates in the two rows result from actions of decisionmakers, there is no rational basis for distinguishing between the two rows with respect to the likelihood of decisionmaker bias.
- Other things being equal, decisionmaker who employs more relaxed standards or are more cautious about imposing adverse outcomes will tend show results more like those in Row 2 than Row 1.
- Patterns in the two rows are akin to those one would find where Row 1 involves more serious (often deemed objectively-identified) offenses while Row 2 involves less serious (often deemed subjectively-identified) offenses. See Offense Type Issues subpage of Discipline Disparities page of jpscanlan.com.
- Regarding Columns 4 and 8, a pattern that it is crucial to know, though virtually no one in fact knows, is that generally reducing an adverse outcome tends to (a) *reduce* the proportion of a disadvantaged group that experiences the outcome but (b) *increase* the proportion the disadvantaged group makes up of persons who experience the outcome.
- Lowering the cutoff decreased the absolute (percentage point) difference between pass (or fail) rates from 17 to 8. Usually when observers say that general reductions in suspensions decreased a disparity (mainly Daniel Losen and colleagues), they are referring to the percentage point difference. That does not mean that the absolute difference is a useful measure of association. See "Race and Mortality Revisited," *Society* (July/Aug. 2014) and Figures 1 and 2 and Table 6 *infra*.

Table 2. Illustration of effect of giving all students a reprimand instead of their first suspension on proportion African Americans make up of K-12 and preschool students receiving one or more suspensions (Table 4 of testimony to Commission on Civil Rights)

Setting	Number of Suspensions	AA Proportion of Students Experiencing the Outcome
K-12	One or more	37%
K-12	Two or more	43%
Preschool	One or more	44%
Preschool	Two or more	48%

Table 2 illustrates that a policy of giving reprimands instead of what would otherwise be first suspensions will tend to increase proportion African Americans make up of persons with one or more suspensions.

Table 3. African American and white rates of multiple suspensions in preschool and K-12, with measures of difference (Table 8 of Commission on Civil Rights testimony and Table 8 or “Race and Mortality Revisited,” Society (July/Aug. 2014))

Level	(1) AA Multiple Susp Rate	(2) Wh Multiple Susp Rate	(3) AA/Wh Ratio Mult Susp	(4) Wh/AA Ratio No Mult Susp	(5) EES
Preschool	0.67%	0.15%	4.41	1.01	.49
K12	6.72%	2.23%	3.01	1.05	.51

Table 3 illustrates that relative differences in receiving multiple suspensions are larger (Column 3), but relative differences in avoiding multiple suspensions are smaller (Column 4), in preschool (where multiple suspensions are comparatively rare) than in K-12 (where multiple suspensions are more common). Column 5 shows that, to the extent that the forces causing black and white rates to differ can be measured, they are about the same in both settings. Illustration is based on data from March 21, 2014 DOE report titled “Data Snapshot: Early Childhood Education” underlying the fact highlighted in the document, and much-cited in discussions of it, that African American children, who make up 18% of preschool students, make up 48% of preschool students with multiple suspensions.

Table 4. States regarded favorably and unfavorably in March 21, 2014 DOE document. 1) titled “Data Snapshot: School Discipline.”

State	Proportion of restrained students who were students with disabilities	Way state was regarded by DOE	Likely degree to which states follows DOE guidance on restraints
Nevada	96%	Unfavorably	High
Florida	95%	Unfavorably	High
Wyoming	93%	Unfavorably	High
Arkansas	43%	Favorably	Low
Louisiana	41%	Favorably	Low
Mississippi	40%	Favorably	Low

See Restraint Disparities subpage of the Discipline Disparities page of jpscanlan.com regarding reasons why following DOE guidance to restrict the use of physical restraints to the most extreme cases tends to increase, not reduce, the proportion students with disabilities make up of restrained students.

Table 5: Proportions African Americans make up of expelled students overall and in schools with zero tolerance policies, with ratio of the African American expulsion rate to the white expulsion rate (based on 2012 DOE report titled “Helping to Ensure Equal Access to Education: Report to the President and Secretary”) (Table 9 of Commission on Civil Rights testimony)

Setting	(1) AA Proportion of Students	(2) AA Proportion of Expulsions	(3) AA/Non-AA Expulsion Ratio
Overall	18%	39%	2.91
Zero Tolerance Schools	19%	33%	2.10

Table 5 illustrates that the African American/white expulsion ratio is greater in schools without zero tolerance policies than in schools with zero tolerance policies.¹

¹ One can derive the rate ratio in Column 3 from the figures in Columns 1 and 2 even though one does not have the actual rates. One needs the actual rates to attempt to determine whether forces causing rates to differ are greater in schools with or without zero tolerance policies. This is one of the reasons, but not the only reason, one can never analyze a demographic difference in the basis of a comparison between the proportion a group makes up of students and the proportion it makes up of students experiencing an outcome. See Section C the Kansas Law paper “The Mismeasure of Discrimination,” Section I.B of the Texas Department of Housing brief, and Section C of the November 14, 2016 Comments to the Commission on Evidence-Based Policy Making (listed in Section B of Extended References); see also the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page of jpscanlan.com.

Figure 1. Absolute differences between rates of AG and DG pass (or fail) rates at various cutoff points defined by AG fail rate (Figure 2 CEBP Comments)

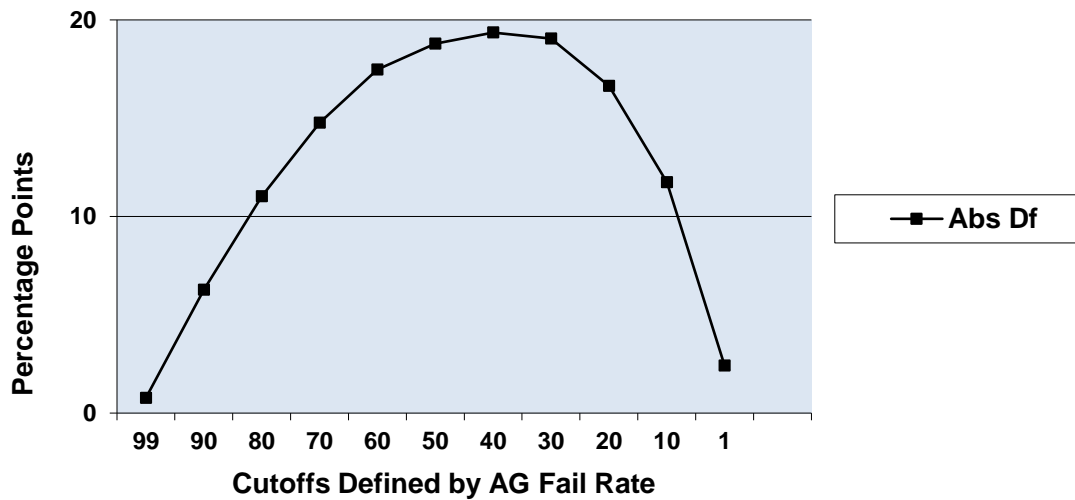
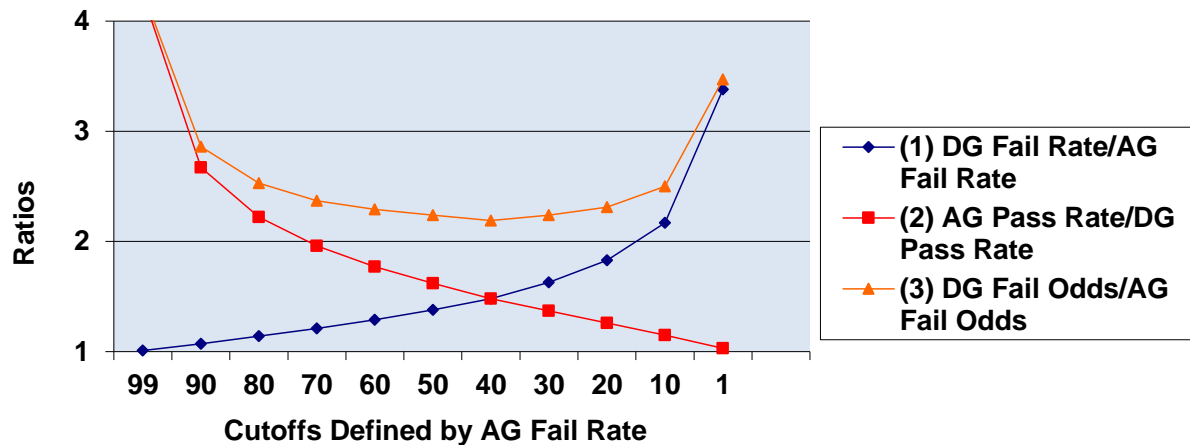


Figure 2. Ratios of (1) DG fail rate to AG fail rate, (2) AG pass rate to DG pass rate, (3) DG failure odds to AG failure odds (Figure 2 from the CEBP Comments)



Figures 1 and 2, which are based on the same specifications as Table 1, illustrate the effect of lowering a cutoff from a point where almost everyone fails to the point where almost everyone passes. Notice that direction of change in the absolute difference tends to track direction of change of the smaller of the two relative differences (initially (1)/diamond marker, later (2)/rectangle marker). Because observers who rely on relative differences to measure disparities commonly rely on the larger of the two relative differences (school discipline, mortgage outcomes, poverty, unemployment), such observers tend to reach opposite conclusions about directions of changes in disparities from observers who rely on absolute differences.

Table 6. Favorable outcome rates of advantaged group (AG) and disadvantaged group (DG) at four levels of prevalence with different favorable outcome frequencies, with measures of difference

	(1) AG Fav Rate	(2) DG Fav Rate	(3) AG/DG Fav Ratio	(4) DG/AG Adv Ratio	(5) Absolute Diff (Perc Points)	(6) Odds Ratio
A	20.0%	9.0%	2.22 (1)	1.14 (4)	11.0	2.53
B	40.0%	22.6%	1.77 (2)	1.29 (3)	17.4	2.28
C	70.0%	51.0%	1.37 (3)	1.63 (2)	19.0	2.24
D	80.0%	63.4%	1.26 (4)	1.83 (1)	16.6	2.31

Table 6 illustrates that across all prevalence ranges general increases in favorable outcomes tend to reduce relative differences in those outcomes (Column 3) while increasing relative differences in the corresponding adverse outcomes (Column 4). The highlighted absolute difference column (5) shows that generally increasing an uncommon outcome (e.g., rates of advanced proficiency) tends to increase absolute (percentage point) differences between rates, as reflected by movement from row A to Row B; but generally increasing a common outcome (e.g., rates of achieving basic proficiency) tends to reduce absolute differences between rates, as reflected by movement from Row C to Row D.

See Educational Disparities page of jpscanlan.com and its subpages. See discussion of Table 5 in "Race and Mortality Revisited.," *Society* (July/Aug. 2014) and discussion (at 337-339) regarding the implications of failure to understand the pattern by which absolute differences tend to be affected by the prevalence of an outcome with respect to disparities reduction elements in pay-for-performance programs, especially in Massachusetts.

EXTENDED REFERENCES

All items listed below are available online and most can be accessed by web searches for their titles. Items that may not be found by web searches should be available on the Measurement Letters page of jpscanlan.com.

A. Short items explaining the mistaken understanding of effects of relaxing standards on measures of demographic difference involving school discipline or criminal justice outcomes (essentially primers on Issue 1)

“Things Do doesn’t know about racial disparities in Ferguson,” *The Hill* (Feb. 22, 2016)

“Things government doesn’t know about racial disparities,” *The Hill* (Jan. 28, 2014).

“The Paradox of Lowering Standards,” *Baltimore Sun* (Aug. 5, 2013)

“Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies,” *Amstat News* (Dec. 2012)

“An Issue of Numbers,” *National Law Journal* (Mar. 5, 1990)²

B. More extensive treatments of Issue 1 or Issue 2 with respect to the full range of matters to which the issues pertain

Statement of James P. Scanlan Prepared for U.S. Commission on Civil Rights Briefing “The School to Prison Pipeline: The Intersection of Students of Color with Disabilities” (Dec. 8, 2017)

Comments of James P. Scanlan for Commission on Evidence-Based Policymaking (Nov. 14, 2016)

“The Mismeasure of Health Disparities,” *Journal of Public Health Management and Practice* (July/Aug. 2016)

“Race and Mortality Revisited,” *Society* (July/Aug. 2014)

Amicus curiae brief of James P. Scanlan in *Texas Department of Housing and Community Development, et al. v. The Inclusive Communities Project, Inc.*, Supreme Court No. 13-1731 (Nov. 17, 2014)

“The Mismeasure of Discrimination,” Faculty Workshop, University of Kansas School of Law (Sept. 20, 2013)

“Measuring Health and Healthcare Disparities,” Federal Committee on Statistical Methodology 2013 Research Conference (Nov. 2013)

² Explains that lowering National Collegiate Athletic Association academic standards for participation in intercollegiate athletics will tend to increase the proportion African Americans make up of athletes disqualified from participation.

C. Recent articles or blog posts discussing, with respect to certain current issues, government policies or actions based on an understanding of the effects of generally reducing school discipline or criminal justice outcomes on measures of racial disparity that is the opposite of reality

“The misunderstood effects of the Baltimore police consent decree,” *The Daily Record* (Feb. 15, 2018)

“The Misunderstood Relationship Between Racial Differences in Conduct and Racial Differences in School Discipline and Criminal Justice Outcomes,” Federalist Society Blog (Dec. 20, 2017).³

“United States Exports Its Most Profound Ignorance About Racial Disparities to the United Kingdom,” Federalist Society Blog (Nov. 2, 2017)

“The Pernicious Misunderstanding of Effects or Policies on Racial Differences in Criminal Justice Outcomes,” Federalist Society Blog (Oct. 12, 2017).

“Innumeracy at the Department of Education and the Congressional Committees Overseeing It,” Federalist Society Blog (Aug. 24, 2017) *

“The Government’s Uncertain Path to Numeracy,” Federalist Society Blog (July 21, 2017)

D. Web pages on jpscanlan.com

Discipline Disparities page and 41 subpages

Subpages address various issues. About 25 pertain to situations where general reductions in discipline rates were in fact associated with increased relative racial/ethnic differences in discipline rates or where the settings with comparatively low discipline rates had comparatively high relative demographic differences in discipline rates.

Education Disparities page and its 7 subpages

The subpages mainly pertain to research examining demographic differences in educational outcomes in terms of relative differences in the favorable or the adverse outcome, or absolute differences between rates, without consideration of the ways the measures employed tend to be affected by the prevalence of the outcome. That is, researchers failed to understand that general improvements in educational outcomes tend to reduce relative differences in favorable outcomes while increasing relative differences in the corresponding adverse outcomes, or that such improvements tend to increase absolute differences for uncommon outcomes like advanced proficiency but reduce absolute differences for common outcomes like basic proficiency.

³ This item also discusses some complex issues regarding inferences related to likelihood that bias plays a role in racial differences akin to those addressed on the Offense Type Issues subpage of the Discipline Disparities page of jpscanlan.com.

E. Letters to DOE, DOJ, or HHS Regarding School Discipline Issues

Departments of Education, Health and Human Services, and Justice (July 17, 2017)
Department of Justice (Apr. 13, 2017)
Departments of Education and Health and Human Services of Education (Aug. 24, 2015)
Department of Justice (Apr. 23, 2012)
Department of Education (Apr. 18, 2012)

F. Letters to DOE contractors and grantees and other entities that conduct research or provide guidance on research regarding demographic differences in discipline or education outcomes (known DOE contractors/grantees denoted with asterisk)

American Institutes for Research (Aug. 25, 2017) *
Pyramid Equity Project (Nov. 28, 2016) *
University of Oregon Institute on Violence and Destructive Behavior and University of Oregon Law School Center for Dispute Resolution (July 5, 2016) *
University of Oregon Institute on Violence and Destructive Behavior and University of Oregon Law School Center for Dispute Resolution (July 3, 2016) *
New York City Center for Innovation through Data Intelligence (June 6, 2016)
Texas Appleseed (Apr. 7, 2015)
Wisconsin Council on Families and Children's Race to Equity Project (Dec. 23, 2014)
Education Law Center (Aug. 14, 2014)
IDEA Data Center (Aug. 11, 2014) *
Annie E. Casey Foundation (May 13, 2014)
Education Trust (April 30, 2014)

G. Letters to school districts regarding difficulties in their particular situations arising from their own mistaken beliefs, or the mistaken beliefs of others, that generally reducing discipline rates will tend to reduce (a) relative differences in discipline rates or (b) the proportion disadvantaged groups make up of persons disciplined

Metro Nashville Public Schools (Feb. 14, 2018)
Loudoun County Public Schools (Sept. 5, 2017)
Duval County Public Schools (Aug. 2, 2017)
Oklahoma City School District (Sept. 20, 2016)
Antioch Unified School District (Sept. 9, 2016)
Houston Independent School District (Jan. 5, 2016)
McKinney, Texas Independent School District (Aug. 31, 2015)

H. DOE-sponsored documents warranting withdrawal

As suggested in the Recommendations regarding Issue 2, all DOE-sponsored documents measuring or providing guidance on measuring demographic differences in educational outcomes should probably be withdrawn. Those listed below are merely some notable examples.

IDEA Data Center Technical Assistance Guide titled “Methods for Assessing Disproportionality in Special Education (revised March 2014).”⁴

Institute of Education Sciences study titled “Disproportionality in school discipline: An assessment of trends in Maryland, 2009-12” (March 2014).⁵

Institute of Education Sciences/Regional Educational Laboratory guide titled “School discipline data indicators: A guide for districts and schools” (April 2017).⁶

DOE Regulation 24 CFR Part 300 – Assistance to States for the Education of Children with Disabilities; Preschool Grants for Children with Disabilities.⁷

⁴ See the IDEA Data Center Disproportionality Guide subpage of the Discipline Disparities page of jpscanlan.com. See also pages 8-9 of the August 24, 2015 letter to the Secretaries of DOE and HHS.

⁵ This item, which is made available on the DOE “School Climate and Discipline: Know the Data” page and treated on the Maryland Disparities subpage of the Discipline Disparities page of jpscanlan.com, is problematic both because it measures suspension disparities in relative terms and because it reflects the mistaken belief that generally reducing discipline suspension rates would be expected to reduce relative racial differences in suspension rates.

⁶ This item has problems similar to those of the IDEA Data Center Technical Assistance Guide.

⁷ On February 28, 2018, DOE postponed implementation of this regulation until 2020. By then the agency should recognize that one cannot usefully measure demographic based on relative differences in outcome rates (or other measures that tend to change solely because the prevalence of an outcome changes).

**James P. Scanlan
Attorney at Law
1527 30th Street, NW
Washington, D.C. 20007
jps@jpscanlan.com**

June 8, 2018

ELECTRONICALLY TRANSMITED

Gail L. Sunderman, Director
Robert Croninger, Research Associate
Maryland Equity Project
Gregory R. Hancock, Director
Measurement, Statistics and Evaluation Program
College of Education
University of Maryland
College Park, MD 20742

Re: Mistaken Understanding That Generally Reducing Adverse Discipline and Criminal Justice Outcome Will Tend to Reduce, Rather Than Increase, (a) Relative Racial Differences in Rates of Experiencing the Outcomes and (b) the Proportion Blacks Make Up of Persons Experiencing the outcomes

Dear Director Sunderman and Research Associate Croninger of the College of Education's Maryland Equity Project and Director Hancock of the College's Measurement, Statistics and Evaluation Program:

This letter principally concerns two studies of the Maryland Equity Project (MEP) of the College of Education of the University of Maryland. I include Director Hancock among the recipients because the letter addresses measurement issues that pertain to many activities of the College's Measurement, Statistics and Evaluation Program (MSEP).

I just reviewed a November 2015 MEP Policy Brief by Matthew Henry titled "[Out-of-School Suspensions in Maryland Public Schools](#),"¹ and a June 2018 MEP Data Brief by Director Sunderland and Erin Janulis titled "[When Law Enforcement Meets to School Discipline: School-Related Arrests in Maryland 2015-16](#)." Both studies reflect the view, which has been promoted by the U.S. Departments of Education, Justice, and Health and Human Services, as well as many members of the social science community, that generally reducing adverse school

¹ To facilitate consideration of issues raised in documents such as this I include links to referenced materials in electronic copies of the documents. Such copies are available by means of the [Measurement Letters](#) page of jpscanlan.com. If the online version of the letter is amended, such fact will be noted on the first page of that version.

Attachment D: Letter from J Scanlan to Md. Equity Project et al. (June 8, 2018) (w/o attach)

Gail L. Sunderman, Director (MEP)

Robert Croninger, Research Associate (MEP)

Gregory R. Hancock, Director (MSEP)

June 8, 2018

Page 2

discipline or criminal justice outcomes will tend to reduce (a) relative racial differences in rates of experiencing the outcomes and (b) the proportion blacks make up of persons experiencing the outcomes. In fact, exactly the opposite is the case.

That is, reducing an outcome and thereby increasingly restricting it to those most susceptible to it, while tending to reduce relative differences in rates of avoiding the outcome (*i.e.*, experiencing the opposite outcome), tends to increase relative differences in the outcome itself; correspondingly, reducing the outcome, while tending to increase the proportions groups more susceptible to the outcome make up of persons avoiding the outcome, tends also to increase the proportions such groups make up of persons experiencing the outcome itself.

I attach my December 8, 2017 [testimony](#) explaining the issue to the U.S. Commission on Civil Rights, my July 17, 2017 [letter](#) explaining the issue to the U.S. Departments Education, Justice, and Health and Human Services, and the [handout](#) I used to explain the issue to Department of Education staff at a March 22, 2018 meeting.

The key points are explained fairly succinctly in my “[Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies](#),” *Amstat News* (Dec. 2012), “[The Paradox of Lowering Standards](#),” *Baltimore Sun* (Aug. 5, 2013), “[Things DoJ doesn’t know about racial disparities in Ferguson](#),” *The Hill* (Feb. 22, 2016), and “[The misunderstood effects of the Baltimore police consent decree](#),” *The Daily Record* (Feb. 15, 2018). The failure to understand the aforementioned pattern and other patterns by which measures tend to be affected by the prevalence of an outcome, and the implication of that failure in the analysis of demographic differences in the law and the social and medical sciences, are explained more fully in my “[Race and Mortality Revisited](#),” *Society* (July/Aug. 2014), and my [Comments for Commission on Evidence-Based Policymaking](#) (Nov. 14, 2016). Many graphical and tabular illustrations of the patterns may be found in the October 10, 2014 methods workshop I gave at the University of Maryland’s Maryland Population Research Center titled “[Rethinking the Measurement of Demographic Differences in Outcome Rates](#)” ([abstract](#)).² A fair summary of the implications of the failure to understand such patterns with respect to the quantification of demographic differences in educational outcomes may be found in my “[Innumeracy at the Department of Education and the Congressional Committees Overseeing It](#),” *Federalist Society Blog* (Aug. 24, 2017).

In 2014, I created web pages discussing that recent reductions in suspensions in [Maryland](#) and in [Montgomery County, Maryland](#) were accompanied by increased relative racial differences in suspension rates. These patterns are being observed across the country, as reflected in the subpages to the [Discipline Disparities](#) page of [jpscanlan.com](#) involving the following states or local jurisdictions: [California Disparities](#), [Colorado Disparities](#), [Connecticut Disparities](#), [Florida](#)

² Professor Sangeetha Madhavan, Associate Director of the Maryland Population Research Center, who organized and attended the workshop, can provide information about the workshop.

Attachment D: Letter from J Scanlan to Md. Equity Project et al. (June 8, 2018) (w/o attach)

Gail L. Sunderman, Director (MEP)

Robert Croninger, Research Associate (MEP)

Gregory R. Hancock, Director (MSEP)

June 8, 2018

Page 3

[Disparities](#), [Massachusetts Disparities](#), [Minnesota Disparities](#), [Oregon Disparities](#), [Rhode Island Disparities](#), [Utah Disparities](#), [Beaverton, OR Disparities](#), [Denver Disparities](#), [Henrico County, VA Disparities](#), [Kern County \(CA\) Disparities](#), [Los Angeles SWPBS](#), [Loudoun County \(VA\) Disparities](#), [Milwaukee Disparities](#), [Minneapolis Disparities](#), [Montgomery County, MD Disparities](#), [Portland, OR Disparities](#), [St. Paul Disparities](#), [South Bend Disparities](#), [Urbana Disparities](#).

The 2015 MEP Policy Brief, which relies on more recent data than my web pages on Maryland and Montgomery County, adds substantially to the body of evidence indicating that general reductions in adverse discipline outcomes will tend to increase, not reduce, relative racial differences in discipline rates. The document shows a continuation of the pattern whereby general reduction in out-of-school suspension in Maryland have been accompanied by an increase in the ratio of the black suspension rate to the white suspension rate. It also shows that in 21 of the 23 jurisdictions for which data were presented in an appendix, during the period of general reductions in suspensions between 2008 and 2014, overall suspension rates showed a larger percentage decrease than black suspension rates. That the overall percentage decrease was larger than black percentage decrease means that the ratio of the black suspension rate to the non-black suspension rate increased. While this ratio is something different from the ratio of the black suspension rate to the white suspension rate, the two ratios will commonly change in the same direction.

I often describe the statistical pattern most pertinent to interpretations of data on school discipline and criminal justice outcomes as that whereby the rarer an outcome the greater tends to be the relative difference in experiencing it and the smaller tends to be the relative difference in avoiding it. One manifestation of the pattern is that areas (or subpopulations) with comparatively low rates for adverse outcome (including among disadvantaged groups) tend to show comparatively large relative demographic differences in rates of experiencing the outcomes but comparatively small relative demographic differences in rates of avoiding the outcome. I gave substantial attention to the failure to understand this pattern in "Race and Mortality Revisited," and treat it with a focus on misinterpretations of demographic differences in Minnesota, Norway, and Sweden in "[It's easy to misunderstand gaps and mistake good fortune for a crisis](#)," Minneapolis Star Tribune (Feb. 8, 2014), and in Massachusetts in "[The Mismeasure of Health Disparities in Massachusetts and Less Affluent Places](#)," Quantitative Methods Seminar, Department of Quantitative Health Sciences, University of Massachusetts Medical School (Nov. 18, 2015) ([abstract](#)). See also the later paragraphs of "[United States Exports Its Most Profound Ignorance About Racial Disparities to the United Kingdom](#)," Federalist Society Blog (Nov. 2, 2017), and the [Massachusetts Disparities](#), [Loudoun County \(VA\) Disparities](#), [Suburban Disparities](#), [Preschool Disparities](#), [Restraint Disparities](#), and [DOE Equity Report](#) subpages of the Discipline Disparities page, as well as Table 2 to 5 of the March 22, 2018 Department of Education handout. Thus, it should not be surprising that the 2015 Policy Brief shows that Montgomery County, which has the lowest black suspension rate in Maryland, also has the largest ratio of the black rate to the white rate.

Attachment D: Letter from J Scanlan to Md. Equity Project et al. (June 8, 2018) (w/o attach)

Gail L. Sunderman, Director (MEP)

Robert Croninger, Research Associate (MEP)

Gregory R. Hancock, Director (MSEP)

June 8, 2018

Page 4

The 2018 MEP Data Brief, in the context of discussion of the variation in arrest rates and disproportionality by school district, notes as an unexpected pattern that “Arundel County has a relatively low arrest rate (0.5 per 1000 students), but the [ratio of the] risk of arrest for black students [to non-black students] (7.79) and SWD to [non-SWD students] (6.86) is high.” But a correlation (though an imperfect one) between low overall rates³ and high risk ratios is something to be expected rather than be unexpected.

There are many pernicious consequences of leading observers to believe that policies that general reduce adverse school discipline and criminal outcomes will tend to reduce relative demographic differences in rates of experiencing the outcomes. I discuss some of these in “[The Pernicious Misunderstanding of Effects or Policies on Racial Differences in Criminal Justice Outcomes](#),” Federalist Society Blog (Oct. 12, 2017). I treat the problems facing the city of Baltimore as a result of the entry of a Consent Decree covering police practices that is premised on the mistaken belief that generally reducing adverse interactions between the police and the public will reduce the relative racial difference in rates of experiencing the interactions and the proportion blacks make up of persons experiencing the interactions, among other places, in “[Compliance Nightmare Looms for Baltimore Police Department](#),” Federalist Society Blog (Feb. 8, 2017), and “[The Government’s Uncertain Path to Numeracy](#),” Federalist Society Blog (July 21, 2017), as well as the recent *Daily Record* commentary discussed at the outset.

I suggest that the University of Maryland should be taking an affirmative role in correcting the mistaken belief regarding the likely effects of the Baltimore decree on measures of racial differences. But it certainly should not be contributing to that mistaken belief.

Finally, I emphasize that the patterns I describe by which measures tend to be affected by the prevalence of an outcome will not be observed in every case, since many other factors are at work.⁴ The second paragraph of the 2015 MEP Policy Brief show that between 1974 and 2010 the black suspension rate showed a larger percentage increase than the overall rate. That is contrary to the pattern I have described and would seem to indicate that factors other than the general increase in suspension were playing a large role in the matter. But departures from the patterns I describe do not detract from the need to understand the ways measures tend to be affected by the prevalence of an outcome in analyzing demographic differences and the need for analyses of demographic differences to attempt to determine the extent to which patterns of changes in measures of such differences (or the comparative size of the differences in different

³ Efforts to identify such correlations – and, indeed, any analyses of demographic differences – should focus on rates of advantaged and disadvantaged groups rather than overall rates. For the overall rate will be affected by the proportion the two groups (and other groups) make up of the overall population.

⁴ One of the two jurisdictions where the percentage decrease in the black suspension rates between 2008 and 2014 was larger than the percentage decrease in the overall suspension rate was Montgomery County (where the black rate decreased by 34.8% while the overall rate decreased by 32.0%). The difference between this pattern and the pattern discussed on my web page regarding Montgomery County may be related to the different time frames examined. But it may also reflect something else.

Attachment D: Letter from J Scanlan to Md. Equity Project et al. (June 8, 2018) (w/o attach)

Gail L. Sunderman, Director (MEP)

Robert Croninger, Research Associate (MEP)

Gregory R. Hancock, Director (MSEP)

June 8, 2018

Page 5

settings) are solely functions of changes in the prevalence of an outcome (or the differing prevalence of the outcome in the different settings) and the extent to which the patterns reflect something meaningful about underlying processes.

I am continuing to press the U.S. Department of Education and other federal agencies to halt all funding of research into demographic difference involving favorable and adverse outcomes rates that fails to make such an attempt. See pages of 3-4 of the attached July 17, 2017 letter to the Departments of Education, Justice, and Health and Human Services and pages 46-47 of the November 14, 2016 Comments for the Commission on Evidence-Based Policy Making.

Please forward this letter to Matthew Henry, author of the 2015 MEP Policy Brief, and Erin Janulis, co-author of the 2018 MEP Data Brief, as well as other members of the staff of MEP or MSEP involved in analyses of (or teaching about) demographic differences.

Sincerely,

/s/ James P. Scanlan

James P. Scanlan

Attachments