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March 20, 2015

The Honorable Lamar Alexander, Chairman
The Honorable Patty Murray, Ranking Member
Senate Committee on Health, Education, Labor and Pensions
428 Senate Dirksen Office Building
Washington, DC 20510

Re: The Mistaken Belief Underlying the Keep Kids in School Act (S. 627) That
Reducing Suspension and Expulsions Tends to Reduce Relative Demographic
Differences in Suspension and Expulsion Rates

Dear Senators Alexander and Murray:

On occasion I write to institutions or organizations whose activities involve the interpretation of data on demographic differences in the law or the social or medical sciences alerting them to ways in which their interpretations are undermined by the failure to understand patterns by which standard measures of differences between favorable or adverse outcome rates of advantaged and disadvantaged groups tend to be systematically affected by the overall frequency of an outcome. Recipients of other letters involving measurement issues discussed in this letter include [Robert Wood Johnson Foundation](#) (Apr. 8, 2009),¹ [National Quality Forum](#) (Oct. 22, 2009), [Institute of Medicine](#) (June 1, 2010), [The Commonwealth Fund](#) (June 1, 2010), [United States Department of Education](#) (Apr. 18, 2012), [United States Department of Justice](#) (Apr. 23, 2012), [Board of Governors of the Federal Reserve System](#) (Mar. 4, 2013), [Harvard University](#) (Oct. 9, 2012), [Harvard Medical School, Massachusetts General Hospital, et al.](#) (Oct. 26, 2012), [Mailman School of Public Health of Columbia University](#) (May 24, 2013), [Investigations and Oversight Subcommittee of House Finance Committee](#) (Dec. 4, 2013), [Education Trust](#) (April 30, 2014), [Annie E. Casey Foundation](#) (May 13, 2014), [Institute of Medicine II](#) (May 28, 2014), [IDEA Data Center](#) (Aug. 11, 2014), [Education Law Center](#) (Aug. 14, 2014), [Financial Markets and Community Investment Program, Government Accountability Office](#) (Sept. 9, 2014), [Wisconsin Council on Families and Children's Race to Equity Project](#) (Dec. 23, 2014), [Portland, Oregon Board of Education](#) (Feb. 25, 2015), [Vermont Senate Committee on Education](#) (Feb. 26, 2015), and [United States Department of Justice and City of Ferguson, Missouri](#) (Mar. 9, 2015). An *amicus curiae* [brief](#) I filed on November 17, 2014, in *Texas Department of Housing and Community Development, et al. v. The Inclusive Communities*

¹ To facilitate consideration of issues raised in letters such as this I include links to referenced materials in electronic copies of the letters. All such letters may be found by means of the Institutional Correspondence subpage of the Measuring Health Disparities page of jpscanlan.com.

Project, Inc., Sup. Ct. No. 13-1371, might be deemed a similar communication to the United States Supreme Court.

I previously sent a [letter](#) of this nature to the Committee on Health, Education, Labor and Pensions on April 1, 2013. This follow-up letter is prompted by the March 4, 2015 introduction by Senator Robert P. Casey, Jr. of S. 627, which calls for enactment of the Keep Kids in Schools Act. The Act includes a number of measures aimed at generally reducing public school suspension and expulsion rates and contains various provisions for monitoring demographic differences in certain outcomes. According to Senator Casey's [press release](#) announcing introduction of the legislation, the Act is based on the belief that generally reducing suspensions and expulsions will tend to reduce relative racial or other demographic differences in suspension and expulsion rates. That belief, which is promoted by the United States Departments of Education and Justice and many other entities, also underlies Section 612(a) (22) of the Individuals with Disabilities Education Improvement Act of 2004 (Public Law 108-446).

As I explained in the earlier letter to the Committee, however, that belief is the opposite of reality. Generally reducing the frequency of an outcome, while tending to reduce relative differences between rates of avoiding the outcome, tends to increase relative differences between rates of experiencing the outcome.

I illustrate the point in Table 1 below, which is the same as Table 1 of the earlier letter. The same illustration is found in Table 1 of the above-reference *amicus curiae* brief (at 9), Table 1 of my recent "[Race and Mortality Revisited](#)," *Society* (July/Aug. 2014) (at 329), and Figure 1 of my recent "[The Perverse Enforcement of Fair Lending Laws](#)," *Mortgage Banking* (May 2014) (at 91). The table also reflects the hypothetical set out in my "[Misunderstanding of Statistics Leads to Misguided Law Enforcement Policies](#)," *Amstat News* (Dec. 2012) (mentioned in the earlier letter), "[Things government doesn't know about racial disparities](#)," *The Hill* (Jan. 28, 2014), and "[The Paradox of Lowering Standards](#)," *Baltimore Sun* (Aug. 5, 2013), each of which addresses the mistaken belief that generally reducing public school discipline rates will tend to reduce relative demographic differences in discipline rates.

The rows of the table show that lowering a test cutoff, while reducing the relative difference between the rates at which a higher-scoring group and a lower-scoring group pass a test, increases the relative difference between rates at which the groups fail the test.

Table 1. Illustration of effects on relative differences in pass and fail rates of lowering a cutoff from a point where 80% of the advantaged (higher-scoring) group passes to a point where 95% of the advantaged group passes (when mean scores differ by approximately half a standard deviation)

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

Another simple tabular illustration of the pattern whereby reducing overall rates of experiencing an outcome tends to increase relative differences in experiencing the outcome while reducing relative differences between rates of avoiding the outcome may be found in Table 2 of the above-mentioned "Race and Mortality Revisited" (at 330). That table shows that generally reducing poverty will tend to increase relative differences between black and white poverty rates while reducing relative differences between black and white rates of avoiding poverty.

With regard to the general applicability of the above-described pattern, I call the Committee's particular attention to (along with the earlier letter) the above-mentioned *amicus curiae* brief (which addresses implications of misunderstanding the pattern in the fair lending enforcement context) and "Race and Mortality Revisited." That article, which addresses the misunderstanding of the pattern and related patterns by which standard measures tend to be affected by the frequency of an outcome in a wide range of contexts,² specifically addresses (at 341-43) misunderstandings about the relationship between the stringency of public school discipline policies and relative differences between rates at which advantaged and disadvantaged groups experience adverse discipline outcomes. Table 8 (at 342) also illustrates the pattern whereby relative racial differences in multiple suspension rates tend to be larger, while relative racial differences in rates of avoiding multiple suspensions tend to be smaller, in preschool (where multiple suspensions are less common) than in K-12 (where multiple suspensions are more common). The article also discusses (at 342) that the response to "significant discrepancies" between rates of long-term suspensions of children with and without disabilities mandated by the Individuals with Disabilities Education Improvement Act of 2004 will tend to increase relative differences between such rates. Extended treatments of the broader implications of the patterns described in "Race and Mortality Revisited" and the *amicus curiae* brief may also be found in my papers "[The Mismeasure of Discrimination](#)," Faculty Workshop, University of Kansas School of Law (Sept. 20, 2013), and "[Measuring Health and Healthcare Disparities](#)," Proceedings of the Federal Committee on Statistical Methodology 2013 Research Conference (March 2014).

Extensive graphical and tabular illustrations of patterns by which measures of differences between outcome rates tend to be affected by the frequency of an outcome, with reference to many settings, may be found in my "[The Mismeasure of Group Differences in the Law and the Social and Medical Sciences](#)," Applied Statistics Workshop, Institute for Quantitative Social Science at Harvard University (Oct. 17, 2012) (mentioned in the earlier letter) and "[Rethinking the Measurement of Demographic Differences in Outcome Rates](#)," Methods Workshop,

² "Race and Mortality Revisited" was mentioned in the earlier letter (at 4) as something to be published in 2013. The article, the publication of which was delayed until mid-2014, is an updating of "[Race and Mortality](#)," *Society* (Jan.-Feb. 2000), which is referenced in the earlier letter (at 4 n.3). As discussed in "Race and Mortality Revisited" (at 331-35), the earlier article caused the National Center for Health Statistics to recognize for the first time that determination of whether health and healthcare disparities had increased or decreased would commonly turn on whether one examined relative differences in a favorable outcome or relative differences in the corresponding adverse outcome. As also explained in "Race and Mortality Revisited," no other federal agency yet understands that the two relative differences tend to change in opposite directions as the frequency of an outcome changes.

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Maryland Population Research Center of the University of Maryland (Oct. 10, 2014), as well as like workshops given between 2012 and 2015 at arms of [American University](#), [University of Minnesota](#), [George Mason University](#), and [University of California, Irvine](#).

I also call the Committee's attention to web pages on [jpscanlan.com](#) discussing data showing that recent reductions in public school discipline rates have in fact been accompanied by increased relative racial/ethnic differences in discipline rates in the states of [Connecticut](#), [Maryland](#), [Minnesota](#), and [Rhode Island](#) and the cities/counties of [Los Angeles](#), [Denver](#), [St. Paul](#), [Minneapolis](#), [Beaverton \(OR\)](#), [Portland \(OR\)](#), [Montgomery County \(MD\)](#), and [Henrico County \(VA\)](#). See also the [DOE Equity Report](#) subpage of the [Discipline Disparities](#) page of [jpscanlan.com](#) regarding a Department of Education study indicating that relative racial differences in expulsion rates are smaller in school districts with zero tolerance policies than in school districts without such policies.

Thus, I urge the Committee to carefully consider the points made in the above references when addressing S. 627 and any other proposed (and existing) legislation that is based on some belief about the effects of reducing, or increasing, the frequency of an outcome on demographic differences between rates of experiencing the outcome. Indeed, I suggest, a legislative body cannot effectively perform any of its functions where the interpretation of data on demographic differences between outcome rates is involved without mastering the statistical points described in the *amicus curiae* brief and the three papers referenced three paragraphs above.

I also call the Committee's particular attention to the March 9, 2015 [letter](#) to the Department of Justice and the City of Ferguson, Missouri, mentioned in the first paragraph. Among other things, the letter explains that a key premise of the Department of Justice's March 4, 2015 report on racial disparities arising from Ferguson, Missouri's law enforcement practices – specifically, that reducing the frequency of adverse outcomes resulting from those practices will tend to reduce the proportion African Americans comprise of persons experiencing those outcomes – is mistaken. Reducing the frequency of the outcomes will tend to increase the proportion African Americans comprise of persons experiencing the outcomes. The points in the final paragraphs of the letter regarding the importance of the Department of Justice's educating itself on the patterns by which measures of demographic differences between outcome rates tend to be affected by the frequency of an outcome, and then communicating sound information on that subject to other governmental entities and the public, apply to Congress as well.

Sincerely,

/s/ **James P. Scanlan**

James P. Scanlan

cc: The Honorable Robert P. Casey, Jr.