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**The Mismatch Myth in American Higher Education: A Synthesis
of Empirical Evidence at the Law School and Undergraduate Levels**

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The Mismatch Myth in American Higher Education: A Synthesis of Empirical Evidence at the Law School and Undergraduate Levels¹

William C. Kidder⁺ and Richard O. Lempert⁺⁺

I. Introduction

Opponents of affirmative action in higher education commonly cite two principles to justify their opposition. One is that admissions to institutions of higher education should be based on "merit," which is often treated by critics of affirmative action as consisting of little more than test score results and high school or undergraduate grades. The second is the legal and moral imperative of not making consequential decisions based on race. We shall not address these principles except to note that others have shown that they do not make the case against affirmative action (Carbado & Harris 2008, Shultz & Zedeck 2011, Prager 2003, Krieger & Fiske 2006, Kang & Banaji 2006, Kang 2012) and to suggest that the weaknesses of arguments derived from these principles are an important reason for the empirical effort to suggest that affirmative action hurts rather than helps its intended beneficiaries, the claim this paper reviews. If these claims were correct it would not matter if the legal and moral case against affirmative action is built on sand, which is perhaps why some leading critics of affirmative action seek to bolster their constitutional and moral critiques with empirical claims (e.g., Thernstrom & Thernstrom 2012a, 2012b).

The core of the "affirmative action hurts" argument is the empirical claim that affirmative action admits minorities to selective colleges and universities who flounder due to academic mismatch when they would flourish if they attended less competitive institutions (e.g., Heriot 2008, 2011). The so-called mismatch theory argues that minority students admitted to schools with academic "credentials" (mainly admissions test scores and high school or college GPAs) below those of their peers find instruction pitched at a level they can't handle; hence, they cannot keep up with their classmates, lose self-confidence, learn little, and either drop out or do so poorly that they do not enjoy the gains associated with acquiring a Bachelor's or an advanced degree (Sander & Taylor 2012; Williams 2013). The theory further argues that if these students had attended schools populated primarily by students with similar admissions credentials, instruction would have been pitched to students like them and as a result they would have done better relative to other students; hence they would have enjoyed enhanced self-

¹ A shorter version of this paper will appear as William C. Kidder & Richard O. Lempert, *The Mismatch Myth in U.S. Higher Education: A Synthesis of the Empirical Evidence at the Law School and Undergraduate Levels*, in AFFIRMATIVE ACTION AND RACIAL EQUITY: CONSIDERING THE EVIDENCE IN FISHER TO FORGE THE PATH AHEAD (Uma M. Jayakumar & Liliana M. Garces eds., forthcoming 2014, Routledge Press).

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confidence, learned more, stayed in school and earned a degree with considerable value on the employment market (Sander 2004; Sander & Taylor 2012).

The academic mismatch hypothesis has been advanced by opponents of race-based affirmative action almost from the time such programs began (Summers 1970, Sowell 1972), and it has been a leitmotif of arguments against affirmative action ever since (Bunzel 1988; Herrnstein & Murray 1994; Thernstrom 1995; Thernstrom & Thernstrom 1999). The argument has had staying power, in part, because it is not silly. It posits a facially plausible mechanism by which affirmative action can harm its supposed beneficiaries and deserves to be taken seriously. Indeed, its plausibility is such that it has swayed a number of centrist or liberal columnists (e.g., Page 2012; McArdle 2013). The argument is, however, an empirical one that is not tested much less proven by its possible truth, or by anecdotal evidence or by impressions created during the late 1960s and early 1970s when schools took greater risks in admitting minority students.² Moreover as deployed by opponents of affirmative action an additional causal inference is required. Not only must mismatch be associated with lower learning, but affirmative action must create such a substantial degree of mismatch that through the mechanism of mismatch it *causes* African Americans (or other underrepresented minorities) to learn or perform less well and/or to earn less after graduation than they would have if they had attended less selective institutions. So even if there were truth to the mismatch hypothesis at the extremes, it does not follow that affirmative action results in mismatch so substantial as to have detrimental effects.

Showing that affirmative action diminishes its beneficiaries chances of success and showing that mismatch or any other mechanism is responsible for indicators of lesser success requires both adequate data and sensitive and sophisticated causal analysis. As Imbens and Rubin³ emphasize researchers must exercise great care and rigor when attempting to establish "causal effects," for absent randomized control designs, it is seldom easy to distinguish between sets of observed outcomes (how affirmative action minorities do at the schools that admit them) and unobserved counterfactual outcomes (how affirmative action minorities would have done had they attended less selective, and sometimes substantially less selective, schools). As we shall see, the studies most prominently cited by opponents of affirmative action fall far short of what is needed to show detrimental effects to whatever mismatch affirmative action creates, while better designed studies using more adequate data sets fail to find detrimental effects due to affirmative action and often find evidence of positive outcomes beyond what attention to admissions credentials would have predicted.

² One of us (Lempert) saw some of this during the first few years of affirmative action at the University of Michigan Law School in the late 1960s. An uncomfortably high proportion of the school's initially small African American cohorts were either in serious academic difficulty or after graduation failed at least one bar exam. But seeing this the school quickly adjusted its affirmative action admissions criteria, and research shows that soon thereafter nearly all of Michigan's students, both minority and white, graduated, passed the bar and went on to have successful careers by almost any measure (Lempert, Chambers and Adams, 2000) .

³ This core tenet about causal inferences holds uniformly across disciplines including economics (Heckman 1995, 1989), political science (King & Zeng 2006; King 2011), psychology (American Psychological Association Task Force, 1999), sociology (Winship & Morgan, 1999), statistics (Freedman 2010; Rubin 2008; Holland 1986), education (Camilli & Welner 2011), and in empirically-oriented legal scholarship (Epstein & King, 2002).

The first serious test of the mismatch hypothesis and still perhaps the most significant is William Bowen and Derek Bok's *The Shape of the River*. Bowen and Bok not only found that mismatch theory was unsupported by empirical data, but they also found evidence suggesting a reverse mismatch effect: holding entry credentials constant, affirmative action eligible minorities at 28 selective colleges and universities did better later in life the more selective the school they had attended. (Bowen and Bok, 1998). These findings were complemented by Lempert, Chambers and Adams (2000a) who looked at the practice experience of the first 27 cohorts of affirmative action minorities (the 1970-1996 classes) admitted to the University of Michigan Law School. In a prize-winning article, Lempert et al. found no difference between the career satisfaction or earnings of whites and Asians on the one hand and African American, Latino and Native American minorities on the other, although they did find that Michigan's underrepresented minorities, especially its African American graduates, were post-graduation more likely to take leadership roles in their communities and to devote more hours to pro bono work. These results did not change when minority students who might have been admitted without affirmative action were removed from the sample (Lempert, Chambers and Adams, 2000b). Davidson and Lewis (1997) found similar evidence of career success over a 20 year period for affirmative action minorities who graduated from the University of California at Davis Medical School.

These early findings have, however, not gone unchallenged, particularly as regards to law students. UCLA law professor Richard Sander and others, predominantly people tied in some way to him, have done empirical work which they see as strongly supporting the mismatch hypothesis, and they have suggested that minorities who take advantage of the educational opportunities affirmative action allows may pay a terrible price for their choice (Sander 2004, 2005; Sander & Taylor 2012, Williams 2013). This research although controversial and regarded by a number of prominent social scientists as fundamentally flawed, has nonetheless received substantial publicity, including mention in Supreme Court cases and arguments (Thomas, 2013). As a result it has had a major role in shaping public perceptions and debate. In what follows we look closely at this research and at the critiques made of it as well as at other empirical studies bearing on the validity of mismatch theory.⁴ As we shall see, most of the social science research, including the best designed studies, is like Bowen and Bok's effort in that it finds no consistent support for the mismatch hypothesis and, occasionally yields evidence consistent with reverse mismatch effects. Moreover, numerous scholars have found that the empirical work that allegedly supports the mismatch hypothesis, including especially the work of Sander and his colleagues, cannot withstand methodological scrutiny.

II. Review of Law School Mismatch Research

Perhaps the most extreme claim with respect to the detrimental effects of mismatch was made by Professor Sander in his first and still most cited effort to provide empirical support for the mismatch hypothesis (Sander 2004). In this article in the *Stanford Law Review*, Sander wrote:

⁴ The reader should know that we do not begin this evaluation with a blank slate. We have followed Professor Sander's research for some time and have been among his most vocal critics (Chambers et al. 2005, Lempert et al. 2006).

The analysis produces a result that will strike many people as intuitively implausible: the number of black lawyers produced by American law schools each year and subsequently passing the bar *would probably increase* if those schools collectively stopped using racial preferences ... [T]he elimination of racial preferences would put blacks into schools where they were perfectly competitive...and that would lead to dramatically higher performance in law school and on the bar (Sander 2004, p. 474, emphasis added).

The claim is not just implausible but extraordinary. It means that even though African American law school enrollments would have dropped by 14% under the model Sander employed, had they been in less selective institutions so many African American students would have done so much better in graduating and in passing the bar, that the enrollment loss would have been more than made up for by the greater success of those that remained.

In a reply to Sander's first article, we together with Chambers and Clydesdale showed that Sander's analysis was fundamentally flawed, for his calculations, using a so-called "grid model" that attended only to LSAT scores and undergraduate grade point averages(UGPA), rested not only on the demonstratively false assumption that the 14% enrollment drop would consist of the 14% of African American law students with the lowest entry credentials, but also on the almost certainly false assumptions that (1) the matriculating minority law school applicants, without exception, would have been willing to attend considerably less selective schools than those they had aspired to attend, (2) that they would have been indifferent to the location of those law schools that might have admitted them, (3) that they would have been similarly indifferent to the costs of attending such schools, and (4) that there would have been space in such schools for them (Chambers et al., 2005). We also showed that even if Sander's use of his grid model had been otherwise unproblematic, changes in the law school applicant population meant that his estimated 14% reduction in black law school admissions using 1991 data underestimated, sometimes vastly, the impact of ending affirmative action in most of the years between 1991 and 2005 (Chambers et al. 2005, Lempert et al. 2006).

Sander's grid model analysis was, however, deeply problematic. In using it, Sander ignored multiple cautions, including those coming from its originator, about likely errors if the "grid model" were used to simulate race-blind admissions. It was known when Sander wrote that in comparison to more sophisticated logistic regression analysis, the grid model underestimates the degree to which ending affirmative action would reduce the production of black lawyers because it takes no account of students' school preferences and factors that influence or constrain them. (Evans 1978, Wightman 1997, 2003) Indeed, the Law School Admission Council's latest regression analysis indicated that for the 2010 admissions cycle if only LSAT scores and undergraduate grades mattered, admissions offers would have gone to only 24% of black law school applicants rather than to the 46% who in fact received them (LSAC 2012). These findings are similar to those from a previous LSAC study, using data from the 2001 admissions cycle, which estimated that African American admission offers would have declined by two-fifths if only LSAT scores and UGPAs affected admissions (Wightman 2003).

Sander's use of implausible assumptions means readers cannot trust his conclusions about the effects of ending affirmative action on the production of black lawyers, and this is a but one issue that his analysis raises. What matters most is that, his claim that mismatch hampers minority student performance is unsupported by the data. Except for the small number of historically black law schools, whose students tend to do better in graduating and passing the bar than similarly credentialed African Americans, holding credentials constant black students tend to graduate and pass the bar at higher rather than lower rates when they attend higher tier schools.⁵ The judgment that Sander's work is seriously flawed is not ours alone. With the exception of Sander's erstwhile coauthor Doug Williams, every social scientist we know of who has independently analyzed the data Sander used has reported results that dispute his conclusions, (see e.g., Ayres & Brooks 2005; Ho 2005a and 2005b; Rothstein & Yoon 2008a and 2008b; Barnes 2011; Camilli & Jackson 2011; Camilli & Welner 2011). Indeed faced with early critiques, Sander soon backed off from the confidence with which he had asserted his original claim regarding the production of black lawyers. In responding to critics, Sander recharacterized his calculations as representing "simulations and speculations about an unknowable future" (2005, p. 1999), although he still maintained that so-called mismatch effects were "very likely shrinking the pool of lawyers" (2005, p. 1999), and he recently asserted that "the negative effect of mismatch on the success of black law students was clearly much larger than the positive effect of racial preferences..." (Sander and Taylor 2012a, p. 62).

Sander's reply to his critics (2005) also acknowledged problems with his data and his models, but his concessions never extended to admitting to any fundamental flaws. However, far better methodologists than Sander have reached this conclusion. The definitive statement is found not in the usual scientific literature but in an amicus brief submitted to the Supreme Court in response to a brief that Sander and his *Mismatch* book coauthor Stuart Taylor Jr. filed in conjunction with the case of *Fisher v. University of Texas at Austin* (Brief of Empirical Scholars as Amicus Curiae in *Fisher*, 2012). Signers evaluating Sander's data and methods included leading methodologists in economics, law, political science, sociology, and statistics, two of whom (Gary King and Donald Rubin) are members of the National Academy of Science.⁶ After reviewing Sander's work, Williams' contributions, and other studies cited by Sander and Taylor in support of the mismatch hypothesis, these experts concluded:

Whether one finds Sander's conclusions highly unlikely or intuitively appealing, his "mismatch" research fails to satisfy the basic standards of good empirical social-science research. The Sander-Taylor Brief misrepresents the acceptance of his hypothesis in the social-science community and, ultimately, the validity of mismatch. Numerous examples exist of better ways to perform the type of research Sander undertook. Sander's failure to set up proper controls to test his hypothesis and his

⁵ Black students at elite (group 1) schools always did better, holding admissions credentials constant than students at schools in any of the lower tiers. Those in second tier schools, which had by far the least favorable student-faculty ratios, did somewhat worse than might have been expected, particularly in comparison to students at schools in the third tier. In most other cases differences were small and insignificant or, when differences in pass rates exceeded 5%, students in the higher ranked tier enjoyed the advantage (Chambers et al, 2005, p. 1884). In later work Professor Sander tried to explain away these inconvenient facts by invoking the concept of selection bias, a matter we treat below.

⁶ One of us, Lempert, also signed this brief, but he is not one of those we here style "a leading methodologist," and his substantive contributions to the brief were slight.

reliance on a number of contradictory assumptions lead him to draw unwarranted causal inferences. At a minimum, these basic research flaws call into question the conclusions of that research.

In light of the many methodological problems with the underlying research, amici curiae respectfully request that the Court reject Sander's "mismatch" research (Brief of Empirical Scholars as Amicus Curiae in *Fisher*, 2012 pp. 27–28).

Professor Sander has nonetheless persisted in his claim to have found sound empirical evidence of academic mismatch, although he is well aware of the many studies that have failed to replicate his conclusions and is equally familiar with the critiques made of his methods (Sander & Taylor, 2012; Sander, 2013, pp. 23-26). Sander's attempts to avoid these criticisms raise two issues that merit comment, as does his claim that recent work by, Professor Doug Williams, an economist he has collaborated with in the past, reinforces his position.

II.A. Addressing Selection Bias and Other Limitations in the BPS Data Set

In his reply to criticisms of his *Stanford Law Review* article, Professor Sander makes much of an issue that merited only in a footnote in his earlier article: selection bias. Selection bias exists when persons receiving a treatment (affirmative action admissions) systematically differ in unmeasured but relevant ways from those who do not receive that treatment. It is plausible to suppose that selection bias might partially explain why, controlling for admissions credentials, black students attending more selective law schools do better in graduating and passing the bar than apparently similar students attending less selective institutions. The argument is that indicators of academic ability that are not captured by the Bar Passage Study (BPS) data Sander and others have used (e.g., letters of recommendation) not only explain why some minority students were admitted to more selective institutions while others with similar credentials were not but also why the former do better than the latter on graduating and passing the bar. The claim is not silly, but selection bias cannot do the work that Sander would have it do, and his empirical attempt to account for selection effects is fundamentally flawed.

Selection bias exists only to the extent that variables that affect outcomes, or good proxies for them, are not included in a model. If, however Sander is right in his claim that at most law schools up to 90% of admission decisions can be predicted based solely on LSAT/UGPA index scores and that the "scope permitted by this regime for 'individualized assessment' is slight indeed" (Sander 2004, pp. 406-07) then threats posed by selection bias would be minimal. Sander most likely exaggerates the predictability of admissions decisions from test scores,⁷ but there is nonetheless little reason to think

⁷ Using comprehensive data for the total U.S. law school applicant pools in 1990-91, Wightman found that LSAT/UGPA explained 60% of the variance in admission decisions for white applicants and a somewhat smaller proportion of the variance for minority groups (Wightman 1997, p.13). Wightman's estimates which we regard as considerably better than Sanders' poorly supported analysis, still show index scores to be a good predictor of law school admissions but they also leave considerable variation unexplained. Some of the unexplained variance is most likely due to a host of unmeasured explanatory factors – like a student's legacy status, a school's concern for geographic diversity, the receipt of out-of-state tuition or admission to a particular program/track at the school whether in public interest law or environmental law – that are likely to relate weakly or not at all to a student's academic potential, and a considerable portion of the unexplained variance is likely to be irreducibly random in a

that the possibility of some selection bias is sufficient to save Sander's hypothesis. Apart from their correlation with credentials, not only are many factors that affect law school admissions, like legacy status and applicant residence, minimally if at all related to academic skills that are unmeasured by index scores, but also qualitative reflectors of academic ability, like letters of recommendation, are far from perfect, and within the BPS some lower tier schools are more selective than schools in tiers above them. These considerations together with the admittedly strong influence of such measured variables as college grades and LSAT scores on law school admissions undercut claims that selection bias might plausibly explain results that Sander regards as anomalies. This does not, however, stop Professor Sander in his "Reply to Critics" (2005) from seeking to rescue his claims by offering an analysis which he claims controls for selection bias. Borrowing a technique from two of his critics (Ayres and Brooks 2005), Sander compares students admitted to their "first choice" law school with similarly credentialed students who attended a second choice school, reaching conclusions diametrically opposed to the results reached by Ayres and Brooks.

There is, however a problem common to both their efforts and to the work of Williams (discussed below) that seeks in similar fashion to control for selection bias.⁸ This is that the hypothesis that first choice students will be academically stronger than their second choice counterparts on variables visible to admissions officers but unmeasured in the BPS does not stand up to scrutiny. In many cases, and perhaps even generally, the opposite may be true. This is because many of those who chose not to attend their original first choice law schools did so for financial reasons, including, it would appear, the prospect of more generous financial aid from a second choice school.⁹ The greater generosity of second choice schools might in many cases reflect an effort to court students who are regarded as particularly strong academically on both measured and unmeasured variables. To the extent this occurs one would expect second choice students to be stronger academically than their first choice counterparts, and to do better in law school and beyond¹⁰ If so differences between first and

system where most schools have far more applicants than they can admit, with those on the margin relatively similar in their academic credentials.

⁸ Sander's analysis is, however, inferior to Ayres and Brooks in several respects, including analyses that mislead because they lump within Sander's "first choice" group students who received only one admission offer (i.e., students more accurately described as "not having a choice" about where to attend law school). Williams excludes from his first choice" students those who applied to only one law school, but it is not clear from what he writes that he also excluded students who applied to a number of law schools but received only one offer (Williams 2013, p. 189).

⁹ Rothstein and Yoon estimate that only 21% of "first choice" students receive any scholarships and grants during the first year of law school, while 75% of second choice students "turned down their first choice school for lack of financial aid" (Rothstein & Yoon 2008b, p.36).

¹⁰ Consistent with this possibility, second choice students as a group, have admissions index scores that are higher than those of first choice students (Sander 2005, 1974). Moreover, apparently without realizing its import, Sander presents a table showing that 72% of second choice students said that cost was a "very important" factor in deciding which law school to attend and 75% said that the financial aid package was very important to their decision. The figures for first choice (including "no choice") students are 48% and 46% respectively (Sander, 2005, p. 1977). It is also reasonable to suppose that admissions officers probe more deeply into characteristics other than admissions index scores when deciding who should receive financial aid and in what amounts than they do in deciding whether to accept an applicant. Coupled with the role financial aid seems to play in motivating "second

second choice students on unmeasured academically relevant variables will not only be minimized but also might favor the second choice students.¹¹

Professor Sander's analyses are plagued by other problems as well. Never does Sander follow best practice by seeking to put his theory to the hardest possible tests. Instead he bridges data gaps with assumptions that consistently favor his theory, and only rarely does one find wide-ranging sensitivity analyses to examine the consequences of different assumptions and determine whether results persist with different model specifications. A skeptical reader might well conclude that Professor Sander tested a variety of models and only reported on those that most strongly supported his position.

One place where Sander does present contrasting results illustrates how a study's implications can be distorted by an author's choice of what to emphasize. In analyses Sander conducted as part of his reply to critics, (Sander, 2005) he had two outcomes he could use to measure the implications of affirmative action: first-time bar passage and eventual bar passage. Only the second measure affects the impact of affirmative action on the production of African American lawyers since a law school graduate becomes a lawyer by passing the bar, no matter if it is on the first, second or third try. Yet in Reply to Critics and in later work Sander treats first time bar passage rates as the preferred outcome measure. Given Sander's original concern, it is hard to discern any reason for this choice other than fact that it yields results far friendlier to the mismatch hypothesis than the results returned when eventual bar passage is the outcome variable.¹² Moreover, Sander fails to recognize that results that appear to

choice" matriculation, this too suggests that many second choice students will be stronger on unmeasured variables than their first choice admissions index counterparts.

¹¹ A thought experiment should make the situation we are positing clear. Consider two students with similar GPAs and LSAT scores, both of whom have been accepted at the Columbia and Northwestern law schools and both of whom would choose to attend Columbia, everything else being equal, because it is 6 or so places higher in the *U.S. News* rankings. Neither student stands out among Columbia's admittees, and Columbia offers neither a particularly generous financial aid package (in 1991 Columbia provided scholarships/grants to 45% of its enrolled minority students). Among Northwestern's applicants, however, the students are among the school's more attractive applicants and hence are candidates for a lucrative and prestigious tuition award (in 1991 Northwestern provided scholarships/grants to 76% of its minority students). Presumably Northwestern would offer its best financial packages to the student who based on all the information it has appears most able and most likely to be successful in law school and in her subsequent career. She receives the award and although she would have preferred to go to Columbia, having her tuition fully paid at Northwestern is too good a deal to turn down. In these circumstances, a comparison between the performance of the Northwestern and Columbia students, controlling for the admissions index, might be misleading due to selection bias, but the bias would favor the second rather than the first choice student. Moreover, effects would be magnified since the cost of legal education is not irrelevant to the dependent variable of dropping out of law school, and graduating law school is a precondition for taking (and passing) the bar (Wightman 1997). Since Columbia is almost certainly a member of the BPS first tier of schools, but Northwestern could well be in the second tier, selection bias in this instance would favor rather than undercut the chance of finding apparent evidence of mismatch effects.

¹² Sander's second choice analysis in *Reply to Critics* shows a significant bar passage difference favoring second choice students if first time bar passage is the outcome measure but not if eventual bar passage is dependent (Sander 2005, p. 1975). Sander argues that first time bar passage rates are a better reflection of how much a student has learned in law school than eventual bar passage rates, but he offers no evidence to back up this assumption. Although those who know nothing about the bar exam and bar exam preparation might think Sander's argument is self-evidently correct, it is not. Not only may a bar exam cover subjects, including local

lend statistically significant support to a theory when only one outcome variable is examined may not do when so two variables are considered. This is because a relationship that is surprising, in the sense that it would be unlikely to appear by chance if it had only one opportunity to appear, is less surprising if it has two or more opportunities.¹³ Similar blindness to the statistical implications of taking more than one bite at the apple is found in a more recent article where Williams and Sander's acknowledge that the BPS data on law school graduation rates do not conform to their mismatch hypothesis but then pivot to emphasize bar passage data and mismatch when comparing tier 1 and 2 versus tier 6 outcomes (Williams et al., 2011, page 813).¹⁴ Even if there were no other problems with Sander's first and second choice analysis, this concern alone would mean that some of his reported results were misleading.

The danger of treating seriously relationships that are the artifacts of chance or of post hoc model building is greater than the casual reader might think. Since a law degree is a prerequisite to taking the bar¹⁵, drop out is a major reason why African Americans in the BPS cohort have disturbingly low bar passage rates. Professor Sander attributes dropping out to low grades and low grades to mismatch due to affirmative action. But the BPS inquired of students who left law school why they dropped out, and "financial considerations are among the most common reasons provided by students who dropped out during their first year of law school" (Wightman 1997, p.37) while grades are infrequently mentioned. A model that controlled for financially motivated drop outs might have found that bar passage rates among African American law students who began law school and could afford to continue their studies was considerably higher than in the full African American cohort. The key to producing more black attorneys would then have appeared to lie in providing more (and more effectively distributed) financial support to African American law students rather than in the abolition of affirmative action.¹⁶

procedural rules, that a student has never studied in law school, but in all states a major portion of the bar exam will relate to courses that a student completed more than two years before he or she takes the bar. For these reasons bar test preparation has become a major industry, and bar prep courses may cost a thousand dollars or more. Thus first time bar passage may reflect not just what has been learned in law school, but what courses a student took in law school, whether to save money a student chooses to attempt the bar once without taking a prep course, the quality of the bar prep course(s) a student attends, whether by chance a bar prep lecturer chooses to highlight an issue that later appears on the bar exam, and the amount of time a student can devote to boning up for the bar. For this reason one hears stories of high ranking graduates of top law schools who failed the bar on their first try.

¹³ The statistical issue is well recognized, and there are ways of accounting for it (e.g., The Bonferroni correction commonly employed by psychologists (APA Task Force 1999)).

¹⁴ Indeed, Williams later provides a textbook example of "confirmation bias" by hypothesizing that lack of conformity between the mismatch hypothesis and graduation rates means that elite law schools are too lax in their graduation requirements (Williams 2013, pp. 180 n. 14, 186).

¹⁵ There are exceptions to this rule, but they are trivial in terms of the national numbers. A handful of states still allow "legal apprenticeship" in a law office as a route to sit for the bar exam, which is the modern day equivalent of how Abraham Lincoln became a lawyer. Also graduates of the law schools at the University of Wisconsin and Marquette enjoy a "diploma privilege" and can become members of the Wisconsin bar without taking a bar exam.

¹⁶ This would not be the last word, of course. It would be plausible to argue that some students who claimed to have dropped out of law school for financial reasons did so because they were in danger of failing or that some of the financial drop outs would have persisted in law school despite the need for more loans if their grades had indicated better prospects for a legal career, and missing data would have pared the usable sample. But the fact that these possibilities exist does not mean one should reject what the BPS respondents said, nor does it justify

An additional caution, affecting the work by Sander, Williams and others, including ourselves, is that the BPS provides information for only a single cohort that entered law school more than twenty years ago. Different studies using these data test the model dependence of results and relate to the reliability of different conclusions, but they are not independent. Although some relationships within this cohort most likely have causal significance, other relationships, which may seem to be as strong, can be artifacts of chance and would not be found if data from a different cohort were used. As Barbara Schneider cautioned in discussing educational research, "Without convergence of results from multiple studies, the objectivity, neutrality, and generalizability of research is questionable" (Schneider, 2004; 1473). Multiple studies of the same people using the same data would not meet Schneider's standard even if every study found evidence of mismatch. Yet, as we have pointed out, even this we do not see. Most analyses of the BPS data find no statistically reliable support for the mismatch hypothesis. The objectivity, neutrality and generalizability of the few studies that do, is not just doubtful but in one or more respects is unlikely (Camilli & Welner, 2011).

Moreover, these are not the only reasons to think that the work of Sander and his colleagues is more likely to mislead than to help courts and policy makers. Even if the results of the various studies were consistent, other aspects of the BPS data set would counsel caution in drawing conclusions from the work that has been done. For example, after controlling for index credentials, it appears that African American students in the top tier law schools do better at graduating and passing the bar than students in all other tiers, but those in the second tier do worse than expected vis-à-vis students in other tiers, especially when compared to students in the third tier law schools. The difference between second and third tier students may, however, reflect not mismatch but an idiosyncrasy attributable to separating schools that should be considered together in tests of the mismatch hypothesis¹⁷ Another cohort characteristic is unlikely to be idiosyncratic but is almost as unlikely to relate to mismatch. African American students in the 6th tier, which consists of historically black law schools, do better in graduating and passing the bar than students with similar credentials in most other cohorts. Sander believes this offers support for the mismatch hypothesis, but as we note in our discussion of Williams' work below, it is equally and more plausibly consistent with explanations that have nothing to do with mismatch.

When a data set has been as frequently explored as the BPS data set and when its characteristics are well known, it becomes easy, consciously or unconsciously, to cherry-pick among various approaches and define models likely to prove a favored hypothesis. This might explain the results of a recently published study by Doug Williams that figures prominently in the case for mismatch that Professor Sander and Stuart Taylor made in their *Fisher* and *Schuetz* amicus briefs (2012, 2013). The study also merits attention because it is to our knowledge the only mismatch study using the BPS

ignoring the possibility that finances rather than low grades was the key cause of drop outs and an important reason why a disturbing proportion of those African Americans starting law school did not end up as lawyers. A researcher intent not on making a point but on putting his pet hypothesis to the hardest possible tests would have closely considered these possibilities and highlighted them even if they could not be tested.

¹⁷ See the discussion explaining why this is so at notes 19 -24 *infra*.

data to appear in a peer-reviewed journal. We doubt, however, that the article would have been published had the reviewers been familiar with the data Williams was using.¹⁸

The most serious problem with Williams' work is that the strongest evidence he offers in support of the mismatch hypothesis is based on a model which, holding admissions credentials constant, compares the bar passage success of African Americans attending first 1st and 2nd tier law schools with the similar success of African Americans attending 5th and 6th tier law schools. The performance of African Americans in the two middle tier law schools is ignored entirely, although 100 of the 163 BPS law schools are in these tiers as are 53% of the BPS sample's African American law students. The ostensible reason for slicing the sample in this way is to reduce measurement error caused by the fuzzy boundaries between BPS tiers, but as Camilli and Welner, commenting on a draft of Williams' paper, observed:

[T]his approach [emphasizes] a methodological choice that may affect external validity. Eliminating those "second-tier" categories removes from the analysis the most convincing counterfactual students, and thus decreases the quality of the ATT estimator. It also raises the question of whether this comparison has many real-world (as opposed to modeled) examples.... The comparison only to lower-tier law schools also raises a related methodological question: whether the study is comparing applicants so substantially different that it is beyond the capacity of parametric regression models to control for those differences (Camilli & Welner 2011, p. 517).

Almost as serious is Williams' decision to combine tier 2 students with tier 1 students while ignoring students in tier 3 schools. This decision assumes that tier 2 students are to a statistically reliable degree more academically skilled than tier 3 students and relatively similar to students attending tier 1 schools. However, in her detailed LSAC report on the construction of the BPS clusters Wightman, (1993) indicates that the mean LSAT scores of students attending group 2 and group 3 schools diverge by less than half a standard deviation and that the groups' UGPA means differ by only a quarter of a standard deviation in UGPAs (pp. 31-32). Moreover, the typical (or "centroid") law schools in groups 2 and 3 have "virtually identical" LSAT scores and UGPAs (pp. 35-36). We display the standardized differences between centroid law schools in each of six BPS "tiers"¹⁹ in Figure 1 below.²⁰

¹⁸ They may also have been misled by Williams' literature review which because it is both sparse and selective, fails to convey the degree to which and the reasons why his analyses run counter to what others have found.

¹⁹ As we indicate below, "tier" is somewhat of a misnomer in the context of the BPS and testing for mismatch.

²⁰ The "selectivity" measure only superficially appears out of step because in the original data the most selective tier is assigned a negative value and the least selective tier a positive value.

Figure 1: Comparison of BPS Centroid Law Schools on Seven Cluster Variables (in Standard Deviations)²¹

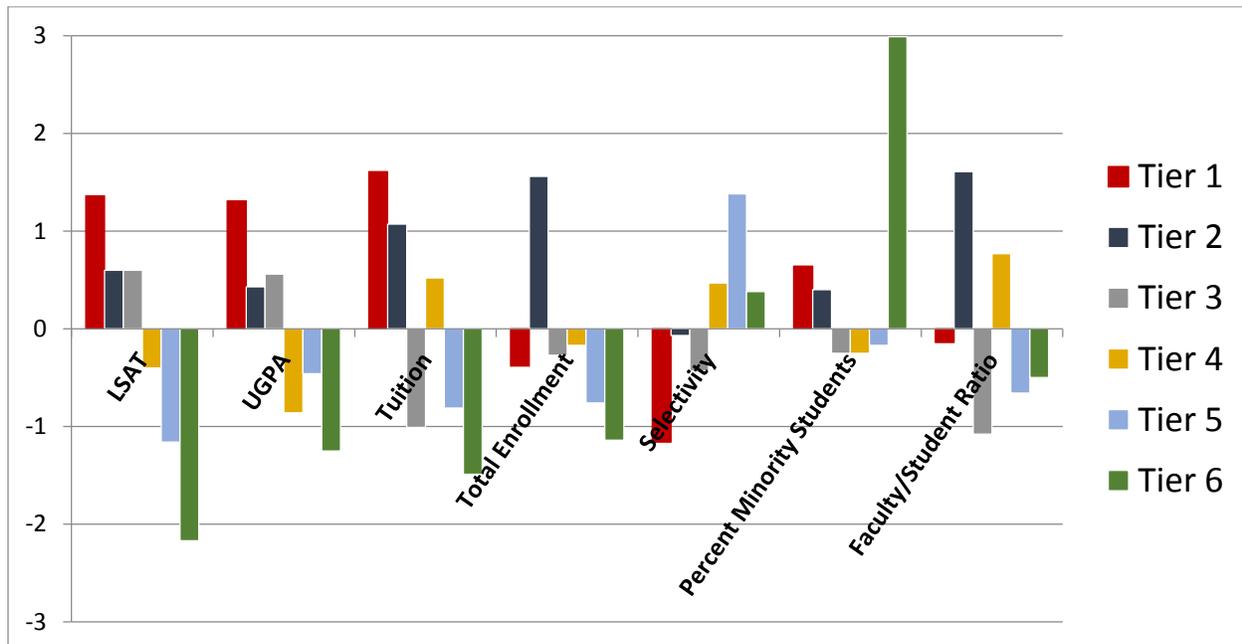


Figure 1 reinforces the point that tier 2 and tier 3 schools were separated in the BPS cluster analysis not because they admit students who are clearly distinct in terms of the academic potential, but because they differ on variables unrelated to mismatch, like tuition (gap of 2.1 SDs), faculty/student ratio (gap of 2.7 SDs) and class size (gap of 1.8 SDs). Not only are differences between the mean LSAT scores and UGPAs of the tier 2 and tier 3 school students statistically insignificant, but their mean scores differ significantly from the mean scores of the students attending schools in each of the other clusters. To test mismatch theory, the tier 2 and 3 clusters should be combined,²² but Williams and others using the BPS data set to study mismatch, ourselves included, mistakenly assumed the tiers were statistically distinct not just as clusters but on the variables used to measure mismatch. Making this issue yet more serious is the tendency noted above for tier 2 students to do worse in graduating and passing the bar than their index scores would lead one to expect while tier 3 students do better than would be predicted. This difference is easily explained by the lower tuition costs, smaller enrollments and far better student-faculty ratios which distinguish the tier 3 schools from their tier 2 counterparts. Treating the two tiers separately and assuming the tier 2 schools are considerably more selective favors finding mismatch even though in many tier 3 schools African American students might not be more closely matched to their fellow students than similarly credentialed African Americans at tier 2 institutions. If differences between the bar passage success of similarly credentialed African Americans in these

²¹ These data are derived from Wightman 1993, table 9.

²² Wightman 1995 (page 5) provides an informative contrast between approaches. In this study 155 of the BPS schools were first sorted *solely by LSAT scores* (adapting the Warkov & Zelan method), resulting in "Stratum I" (LSAT median of 43 or higher at all 12 schools), "Stratum II" (17 schools with LSAT medians of 41 or 42), and then "Stratum III" (the remaining 126 schools with a wide range of LSAT medians). If we look at the six BPS clusters only tier 1 (LSAT average of 42) is comparable to Stratum I and II, whereas tier 2 (LSAT average of 39.5) is not (Wightman 1997, p.24).

adjacent clusters is due to anything other than chance, it is due to institutional variables likely to reduce cost-related dropout by affirmative action minorities and to enhance their comfort as law students and the quality of their education. Coupled with the similarly plausible institutional explanations for the relative success of African American students at tier six schools,²³ the BPS may yield clues about how to enhance the success of affirmative action admittees, but the ameliorative actions they suggest have nothing to do with reducing mismatch.

Failing to account for how the BPS clusters were constructed biases all research that treats the study's six tiers as separate and ordinal and for this reason favors findings of mismatch, but in no study is the problem as significant as it is in Williams' work. Williams lumps tier 2 schools with tier 1 schools when their student bodies differ significantly in their LSAT scores and undergraduate GPAs, the two most powerful quantitative predictors of law school success, and he discards tier 3 students who do not differ significantly from tier 2 students on these measures (see Figure 1).²⁴ To see this is to realize that Williams rationale for discarding the two middle tiers – to ensure an unambiguous separation of schools whose students had substantially different academic credentials – should itself be discarded. Instead of constructing two coherent but academically different groups, two tiers (1 and 2) that are significantly different given their students' academic credentials are joined and two tiers (2 and 3) whose students cannot be reliably distinguished on the basis of academic credentials are separated, with students in one of the tiers eliminated entirely from the data analysis.²⁵

Not only is bias engendered by the choices Williams made, but this should have been obvious before the analysis. Tabular data indicate that African American students at 2nd tier schools fared relatively poorly given their credentials while students at the historically black law schools that constituted the 6th tier fared relatively well.²⁶ Also it was clear that controlling for credentials students in the top tier did quite well in graduating and passing the bar while those in the 5th tier, which in some respects is the bottom tier, fared rather poorly. Williams' decisions to eliminate the large middle (3 and 4) tiers and to combine tier 1 with 2 and tier 5 with 6 means that in the groups he compares the

²³ See the discussion at notes 27-32 *infra*.

²⁴ These choices suppress what appear to be reverse mismatch effects enjoyed by minorities attending tier 1 schools and make comparisons that turn on the performance of tier 2 students appear to reflect the performance of tier 1 students as well. For example, very few black tier 1 students have index scores in the bottom two quintiles of the BPS credential distribution, but many students in tier 5 and 6 schools have credentials in this range as do a non-negligible number of tier 2 students. Thus tier 2 students figure most prominently in credential controlled comparisons with tier 5 and 6 students, but as Williams presents his data this aspect is invisible.

²⁵ Consistent with the techniques used by Camilli and Welner (2011) and Ho (2005a) with the BPS, it is preferable in social science to conduct matching with "close neighbors" in order to minimize selection bias (Dale & Krueger 2002, 2011; Ho et al. 2007, p. 219-20). Thus, the problem in Williams' article is compounded because as Camilli and Jackson pointed out, "[T]he middle two tiers most likely provide the closest-matching counterfactual controls for elite school attendance. Thus, it could be argued that this choice is just as likely to create bias as it is to reduce the effects of measurement error" (Camilli & Jackson 2011, p. 184 n. 105).

²⁶ Williams and Sander state as much in an earlier law journal essay, noting that African Americans from historically black schools have a 57% pass rate that is "only slightly lower than the first-time bar passage rate of blacks at all other law schools in the BPS (62%) ... even though blacks at the heavily minority schools have, on average, significantly lower entering credentials than blacks at other law schools" (Williams et al. 2011, p. 815 n.13).

tendency of those in the top tier to do well even after controlling for admissions credentials and the tendency of those in the 5th tier to do poorly escape notice.

The likelihood that Williams' methodological choices will mislead is most obvious when one considers the tiers at the bottom. The statistics for the combined tier are numerically dominated by the experience of black students at the tier 6 schools, the HBCUs, which account for 75% of the African American students in the combined (5 + 6) tier.²⁷ Data from HBCU students are of almost no use in evaluating the mismatch hypothesis since there are reasons other than mismatch that can explain why black students might do better than their counterparts at more selective schools with similar entrance credentials. This tier is, for example, the only tier dominated by schools that unequivocally contain a "critical mass" of African American students and faculty.²⁸ Although Ayres and Brooks (2005) and the LSAC BPS User's Guide (Wightman 1999) both note the potential importance of "critical mass" in explaining the performance of students at historically black law schools, Williams does not confront critical mass as a rival hypothesis, and he dances around the topic in contrasting his methodological choices with those of Ayres and Brooks (Williams 2013, pp.173-74).

Moreover, the presence of a critical mass is not the only variable that can explain the relatively strong performance of law students at HBCUs. A second but not mutually exclusive explanation relates to cost. Passing the bar requires graduating from law school as well as passing the bar exam, and those who could not afford to continue their legal education after having enrolled are counted as failures in the BPS data. Again students attending a tier 6 school have a special advantage. In 1991, the average HBCU tuition was \$3,137. At the tier one schools (the "elites") it was \$13,660 and at tier 2 schools it was

²⁷ It is not accidental that the tier 5 schools had the lowest proportion of minority students of the six tiers – minority proportion was one of the criteria used to construct the tiers.

²⁸ The student bodies of the tier 6 schools were majority minority (58%) or nearly triple the percentages at tiers 1-2 (20% and 19%) and four to seven times higher than the percentages at tiers 3-5 (15%, 12%, 8%) (Wightman 1997, p. 24). These data also bear importantly on Professor Sander's claim that eliminating affirmative action would increase (or minimally reduce) the production of black attorneys. Even if his analyses were not seriously flawed, to the extent his results were driven by the better than expected performance of tier 6 African American students, the policy implications he draws for the production of black lawyers would be mistaken because even if "attending a historically black school avoided mismatches, it wouldn't help much in producing new African American attorneys since those displaced by the cascaders down would in large part be African Americans" (Chambers et al. 2005, p. 1885 n.105).

11,154 (Wightman 1997, p.24).²⁹ In fact, the tier 6 HCBUs had the lowest tuition of any tier, with the next lowest being the tier 3 publics (\$3,481) which Williams excluded from his comparisons.³⁰

In addition, the nation's historically black law schools tend to feed local and regional markets, and most of these schools are located in states in the South where bar pass standards were somewhat less demanding than the national average. Williams claims that "Because the BPS provides no information on the state where the bar was taken, it is not possible to control for variation in bar difficulty" (Williams 2013, p. 179). However, while the BPS does not capture and report bar exam stringency per se, information on state-level differences in bar exam difficulty during the 1990s BPS era is available, and these data reinforce the likelihood that Williams' methodological choices misled because a small group of historically black law schools are doing too much the "heavy lifting" in his analysis. The pass/fail cutoffs for each state using Multistate Bar Examination (MBE) scores show wide variation, ranging from a low of 118 in South Carolina and 126 in Mississippi to a high of 144 in California and Delaware, with a national average of 134 (Klein 1999).³¹ In the BPS sample 16.5% of African Americans took the bar exam in the three "difficult" bar states of California (144 MBE), Michigan (137 MBE), and Pennsylvania (137 MBE) (Wightman 1998, table 2; Klein 1999). While the exact number is unknown, it would be surprising if more than a negligible number of graduates from historically black law schools took the bar exam in these three states. Conversely, given the tendency of students in all but the more elite law schools to attend schools in the region, and often the state, where they want to practice, the vast majority of African American graduates from historically black law schools would have taken the exam in the states displayed in the table below covering the deep south states plus New York and Maryland (where the majority of Howard graduates take the bar). As shown below in Table 1, these states have collectively a mean MBE cutoff of 131.2 compared to the national average of 134. In the BPS sample 52% of African American bar testers took the exam in the states shown in the table below,

²⁹ This translates to a difference of 2.2 standard deviations in the tuition charged by tier 6 and tier 1 schools and a 1.7 SD difference in the tuition charges of tier 6 and tier 2 schools (Wightman 1993, p. 32). The difference may be diminished by scholarship aid, but this also happened with Howard, the most expensive of the HCBUs, which charged \$8,346 in tuition but provided scholarships and grants to 60% of its minority students, with merit scholarships ranging from \$7,500 to \$15,000 (LSAC 1992).

Within the BPS, about one quarter completed a questionnaire upon entering law school and we know that of African Americans who anticipated working only 10-20 hours of paid work in their first year of law school, 77% ended up passing a bar exam, but of those who anticipated working 21-30 and 30+ hours, 63% later passed a bar exam (Wightman 1998, table 29).

³⁰ The low mean tuition at tier 3 schools may, as we earlier noted, also explain why students in these schools performed better controlling for admissions credentials than students in most other tiers including, especially, students at tier 2 institutions.

³¹ Only four states did not use the MBE in 1995: Washington, Indiana, Iowa and Louisiana (National Conference of Bar Examiners 1996). While the source of our data (Klein 1999) is unpublished, it has been documented for many years that California objectively had (and has) the most stringent bar exam based upon MBE cutoff scores (Kidder 2004, p. 576). The MBE is only part of each state's bar exam, but it is used to scale the other portions of the exam in nearly every state (Merritt et al. 2001, 931-38). By "MBE cutoff" we mean the passing threshold for the overall exam in each state even though in most states a candidate's lower score in one section of the exam can be offset by a higher score in another section.

(Wightman 1998, table 2), but given their location we expect that for the historically black BPS law schools the proportion of test takers in these states is three-fourths or higher.³²

Table 1: MBE Pass/Fail Standards in the 1990s in States Where the Vast Majority of Graduates of Historically Black Law School Graduates Would Take the Bar Exam (Deep South + NY & MD)

State	MBE	State	MBE	State	MBE
Alabama	128	Georgia	135	South Carolina	118
Arkansas	131	Louisiana	n/a	Texas	134
District of Columbia	133	Mississippi	126	Virginia	134
Florida	131	North Carolina	136	New York	132
				Maryland	136
Average for All States Above: 131.2					
National Average: 134					

The above three explanations for the relative success of tier 6 law students controlling for academic credentials are additive rather than mutually exclusive. Separately and together they are plausible rival hypotheses, having nothing to do with mismatch, that can be added to the list of data and design flaws that are more plausible explanations than mismatch for the results Williams reports.³³ By

³² As a concrete and contemporary example about the difference between taking the bar in a highly stringent or less stringent state, over the past several years three-fourths of Howard graduates who took the bar in New York passed on their first attempt, but only one-third of the small number of Howard graduates who took the California bar end up passing on the first attempt (LSAC-ABA Guide, 2010-13 editions).

³³ We have focused on the results Williams gets when he compares the success of African American students in the top two BPS tiers with that of those in the bottom two tiers because it is these results which appear to offer the strongest support for the mismatch hypothesis. Williams presents other analyses which he believes point in a similar direction, but these too either lend scant support to the mismatch hypothesis and/or are seriously flawed. In one set of analyses, following Rothstein and Yoon's approach, he divides the sample into two BPS tiers, 1 and 2 and 3-6; misleadingly labeling the first two tiers as "Selective" and the other 4 as "Nonselective" even though almost all law schools are selective, and students applying in 1991 to schools in tiers 3, 4 and 6 had only about a 1 in 3 chance of being admitted." Moreover, not only do tier 2 and 3 schools barely differ on selectivity (26% versus 28%) but for reasons as we have shown, tiers 2 and 3 should not be separated if BPS tiers are to be combined. Moreover, using the 2-4 split Williams fails to find a significant difference in the likelihood that a student beginning law school in one of the bifurcated tiers will graduate and pass the bar.

Williams also attempts an instrumental variable approach which involves comparing students who attended their first choice schools with students who say they attended a second or third choice school, either because of financial or family considerations. We noted earlier in this paper problems in the first/second choice analyses of Sander and Williams. To our earlier points we would add that Williams' attempt is likewise seriously flawed, even putting aside the biases built into the collapsing of the six BPS tiers into two. To begin with, the eligibility conditions eliminate 72% of the black students in the BPS sample if students in tiers 1 and 2 taken together are compared to students in tiers 3 through 6 and 86% of the blacks in the sample if tiers 1 and 2 taken together are compared to the combination of tiers 5, and 6, and as with the other comparisons discussed it is the latter comparison that yields the strongest results. But this is not the only flaw. Not only does the approach depend on the strong and sometimes false assumption that a student's second choice school will be noticeably less rigorous than his or her first choice institution, but the conditions needed to treat the 2nd and 3rd choice attendees as an instrument may not always be met. A valid instrument requires that the circumstances that place a student in the

ignoring these rival hypotheses Williams, like Sander, fails to put the mismatch hypothesis to adequately rigorous tests and falls short of accepted social science standards. As the American Psychological Association cautioned, researchers making causal inferences have "an extra obligation ... to alert the reader to plausible rival hypotheses that might explain their results." (APA Task Force, 1999 at p.600). This standard is particularly important in research which aims at policy relevance (Lempert 1989). Falling short of this standard is reason enough to doubt the policy relevance of Williams' (and Sander's) empirical claims

If Williams and Sander have stirred up the pond, it has only been to muddy the waters, but other research shows the pond is not in fact muddy. Either, academic mismatch poses no problems, or the problems it poses are so slight, or affect such a small proportion of affirmative action admittees or are so counterbalanced by positive effects that mismatch has no relevance to debates over affirmative action.³⁴ Rather, in the scholarly and public discourse mismatch claims seems to function largely as a way to cloak value-based objections to affirmative action with a veneer of concern for the success of affirmative action minorities. An example occurred while we were writing this article. Two anti-affirmative action members of the U.S. Commission on Civil Rights sent a provocative eight-page letter to hundreds of universities and colleges claiming that affirmative action "policies hurt, rather than help, their intended beneficiaries" and cajoling colleges to take a "hard look" and "look again" at the mismatch literature (prominently featuring research by Williams and Sander) and to tailor their admissions policies accordingly (Heriot & Kirsanow 2014).

II.B. Failures to Replicate

The critique of the BPS-based claims for mismatch theory has been of two types. One, which has been our focus to this point, highlights the methodological deficiencies of the research used to

2nd/3rd choice group be uncorrelated with unmeasured abilities that might lead an applicant to be admitted to a particular institution and to succeed on the bar. Thus to justify his choice of instrument Williams offers the following example: Suppose "students A and B are both minority students admitted to Cornell. Student A attends Cornell. Student B attends Washington University, her second choice, because she is offered a full scholarship" (p. 185). The example implies that we can be confident that the second choice student is not only at a less demanding institution but also that the student B is no more skilled than student A since financial aid alone motivated her choice. What Williams ignores is the possibility that student A also applied to Washington University and because he was regarded as having less scholarly potential than B did not receive a scholarship or that the school upon receiving inquiries from A and B or through services that provide information about promising students proactively reached out to A but not B to encourage an application by highlighting scholarship possibilities. In either case attendance at the second choice school could be expected to correlate positively with academic achievement even if the student's subjective choice was based entirely on financial considerations.

³⁴ This is not to say that academic mismatch could not pose problems. One reason the mismatch claim is intuitively plausible is because it is easy to imagine situations where a student is so behind his peers in preparation or academic ability that he cannot keep up when he would have few problems if the academic pace were slower because his classmates were less able. If, for example, top tier law schools admitted students who today are only accepted by bottom tier or proprietary law schools, these students, many of whom pass all their courses at the schools they attend, might well be in academic difficulty due to mismatch. But we are talking about the real world of contemporary college and law school admissions and not the hypothetical world that might exist if in admitting affirmative action minorities schools had no concern for the likelihood of their admittees' academic success.

advance mismatch claims. One might have thought that the judgment of the methodological experts who weighed in on the Sander and Williams studies in *Fisher* would have quieted resistance to these claims, but it has not. The second consists of efforts to replicate Sander's results using different approaches and, most often, superior methods. Except for the work of Sander's friend and erstwhile coauthor, Doug Williams, that we have just reviewed, replication attempts have served not to bolster the case for mismatch theory, but rather to call it into question.³⁵ Dan Ho, for example, using "close neighbor" matching to account for selection bias found:

The direct test of Sander's hypothesis is that black students who are similar in qualifications but attend higher-tier schools should fare worse on the bar. This is evidently not the case. While it is true that similarly qualified black students get lower grades as a result of going to a higher-tier school, they perform just as well on the bar irrespective of law school tier.... whichever way one cuts it, there is no evidence for the hypothesis that law school tier causes black students to fail the bar (Ho 2005a, pp. 108-09).

Rothstein and Yoon, looking at the BPS data concluded:

[T]he available evidence offers only weak support for the mismatch hypothesis. Half or more of the black-white gap in law school outcomes can be attributed to differences in entering academic credentials that have nothing to do with the selectivity of the schools that students attend. What mismatch effects there may be are concentrated among the black students with the weakest entering academic credentials; moderately qualified students do not appear to experience mismatch effects even when they attend highly selective law schools (Rothstein & Yoon 2008a, p. 652).

Ayres' and Brooks' findings are similar:

Sander's conclusion that these disparities [in law school grades and risk of not becoming a lawyer] are dominantly or solely caused by affirmative action does not withstand closer analysis. [W]e have shown by looking at the actual achievement of blacks who go to the tier of the median whites with the same entering credentials that affirmative action mitigated these racial disparities and that even more affirmative action would have been likely to produce more black lawyers. ... Our analyses provide mixed support for the academic mismatch hypothesis ... with some results showing no mismatch effect, some supporting a mismatch effect, and others pointing to a reverse mismatch

³⁵ Sander and Taylor might appear to dispute this point, for they write, "[I]t is important to note at the outset that all the factual claims and the data presented in 'Systemic Analysis' withstood all scrutiny. All of its tables, models, and analyses were replicated. Though this point was often obscured, the Debate (such as it was) concerned only the inferences I drew from the facts and models I presented" (Sander & Taylor 2012, at p. 69). This judgment itself is revealing, for it reflects a narrow and crabbed view of what it means to "replicate" research, a view that no one who believed his findings were robust would assert. What Sander and Taylor mean when they say Sander's work has been replicated is that if a researcher used their models and their programs to analyze their data the tables produced would be the same as those Sander presented. This tells us nothing except that applying the same computer program with the same commands to the same data will yield the same results. To treat such checks as meaningful replication departs from the prevailing norm in the academy, which regards a finding as replicated if it is found when new data are examined and/or other reasonable specifications are employed. As we show in this paper, several scholars have attempted to replicate Sander's findings, but their attempts have uncovered little or no evidence of mismatch effects.

effect³⁶ ... Sander interprets away the strong evidence that, holding entering credentials constant, students have a higher probability of becoming lawyers when they attend higher-quality tiers (Ayres and Brooks, 2005; 1853-54).

Camilli and Jackson's examination of the same data, including "close neighbor" matching methods, led them to question the basis of Sander's approach:

Some evidence was found supporting the negative match hypothesis for Black and Asian law school students in the lower propensity range. Yet, the match effects for bar passage in the upper range were much lower than Sander's reports, and did not approach statistical significance ... No negative match effects for graduation are apparent. Thus, the bar passage rates difference seems very modest relative to the substantial social networking advantages of elite school attendance....

[T]his study has shown that regression analyses of the kind conducted by Sander are incapable of producing credible estimates of causal effects...

(Camilli & Jackson 2011, pp. 203, 207).

Camilli and Welner provide this concise summation of the literature:

"[The existing research base fails to document a consistent and substantial negative mismatch effect... Some studies suggest positive effects, some suggest negative effects, and some no significant effects. If enough snark³⁷ hunters return empty handed, there is not much reason to examine or explain the nature of snarks" (Camilli & Welner 2011, p. 521).

Finally, the methodologists who responded to the Sander and Taylor brief in *Fisher* wrote:

"The hallmark of reliable empirical work is that it can be validated by other researchers. A wide array of social scientists have studied the impact of elite educational institutions on student outcomes, reaching conclusions directly contrary to those of mismatch" (Empirical Scholars brief 2012, p.14).

We could not more succinctly summarize our position on the importance of replication and the clear evidence that Sander's results do not replicate.

II.C. Testing Mismatch with the BPS: A Final Caution and a Further Consideration

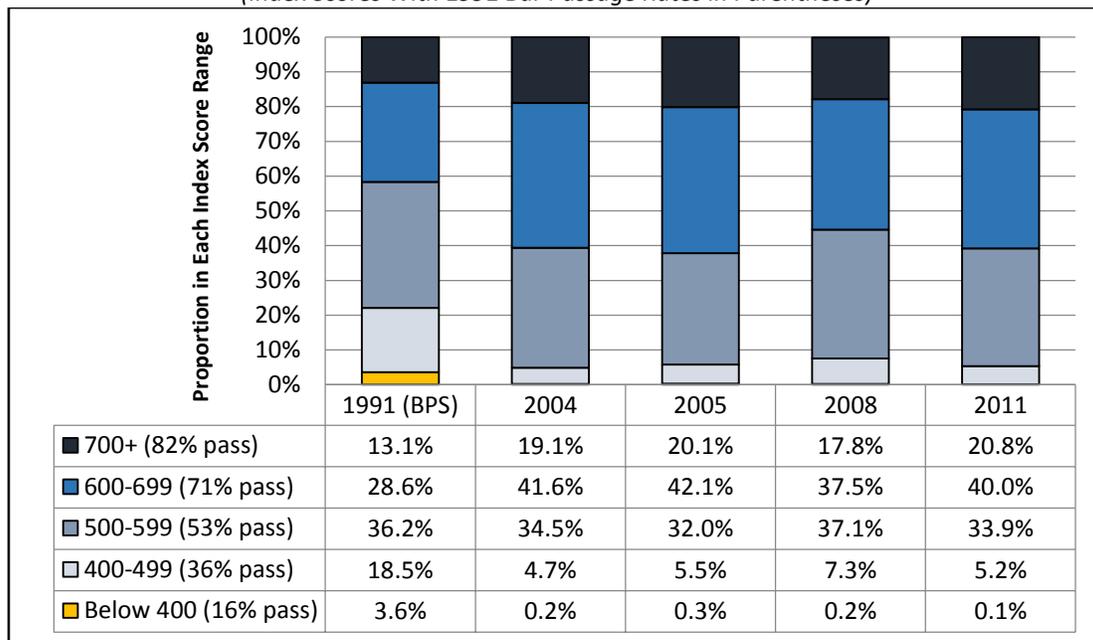
Before we leave the work that has used the BPS data to derive or question the academic mismatch hypothesis, there is a final point to be made. Even if the work by Sander and Williams had stood up to critical analysis – and it surely has not – it would tell us almost nothing about the effects of affirmative action by law schools today. The qualifications of African American law school students, have changed so much over time that one cannot responsibly generalize from what was true in 1991 to what is likely to be true today. Indeed, the only reasonable conclusion to reach is that if mismatch

³⁶ When support for a theory is mixed and some results are opposed to the theory's predictions, the theory as offered is not supported unless it includes conditions that account for the aberrant cases. Sander's theory includes no such conditions, so the mixed results that Ayres and Brooks report are another instance where independent scholars have failed to replicate Sander's claims for his theory.

³⁷ A "snark" is a mythical creature invented by Lewis Carroll.

caused any problems for African Americans entering law school in 1991, it causes far fewer problems for those entering law school today (Lempert et al. 2006; Chambers et al. 2005). This is because the likelihood of failing to persist in law school or if graduating failing to pass the bar is in the BPS strongly related to admissions index scores, and the average the index scores of African Americans enrolled in law school has dramatically increased over the last decade. As we see below in Figure 2, African American students with index scores that in 1991 predicted to a less than 50% chance of graduating and passing the bar have almost entirely disappeared from the ranks of law school attendees.

Figure 2: Distribution of LSAT/UGPA Index Score of Entering African Americans in the BPS (1991) and Periodic Years Since "Systemic Analysis" (2004 – 2011)
(Index Scores With 1991 Bar Passage Rates in Parentheses)



Sander and Williams both use law school graduation and bar passage as their measures of accomplishment, but neither in fact guarantees career success. The mismatch hypothesis might be taken to suggest that African American students who attend less selective law schools will do better as their careers unfold, and Sander has tried to make that argument (Sander 2004, 454-67; Sander 2006). The evidence is overwhelmingly to the contrary. Numerous studies find that African American students who attend the nation's most selective undergraduate and professional schools often have extraordinarily successful careers, in many cases doing better than whites who have attended less selective institutions. Moreover, they appear disproportionately likely to take on leadership roles and otherwise give back to society (Bowen & Bok 1998; Lempert et al. 2000; Chambers et al. 2005; Wilkins 2005; Camilli & Jackson 2011; Shultz & Zedeck 2011; *Grutter* amicus brief by the Harvard/Yale/Stanford Black Law Student Association 2003; *Schuetz* amicus brief by the Civil Rights Project, 2013). If as Justice O'Connor suggested in *Grutter* affirmative action is justified not just by the value of educational diversity but also by a society's need for a successful and diverse workforce, affirmative action as it has been practiced by the nation's law schools meets the constitutional test.

III: Empirical Analysis of Undergraduate Mismatch

Turning from legal education to undergraduate education we see that critics like Sander and Taylor (2012a, 2012b, 2013) and the Thernstroms (1995, 1999, 2012a) sound similar themes. They argue that affirmative action leads to academic mismatch which depresses the graduation rates of African Americans and Latinos and leads to lower lifetime earnings. But they can muster little evidence to support their hypothesis, and the little they can muster is often methodologically suspect. So they largely confine themselves to criticizing work that shows the opposite. The work they criticize has, however, often been well received by the scientific community and includes studies by sophisticated methodologists.³⁸

III.A. *Graduation Rate Studies Comparing Similar Students Across Institutions*

One set of studies compares African American and Latino undergraduates at selective colleges and universities with students of similar ethnic backgrounds and similar entry credentials (high school rank/GPA and SAT/ACT scores) who attended less selective schools. Beginning with the landmark book *The Shape of the River*, empirical scholars have almost always found that if there is any advantage, it lies with those who attended the more selective institutions. In *The Shape of the River* Bowen and Bok, using the *College & Beyond* data set of 28 academically selective institutions, found that 87% of those African American entering college in 1989 with SAT scores in the 1100s at the most selective tier of schools (e.g., Yale and Stanford) graduated with their Bachelor's degrees, compared to 79% of those attending next tier schools (e.g., Northwestern and Penn) and 72% of those at third tier institutions (e.g., Michigan and Penn State).³⁹ Looking only at African Americans they found the same pattern for the 1976 cohort (Bowen & Bok 1998, pp. 339, 380).

Other studies support and reinforce Bowen and Bok's initial findings. Using the broader cross-section of schools represented in the 1982, *High School and Beyond*, longitudinal data set and focusing on African American and Latino students in predominantly white institutions, Kane found that controlling for admissions test scores minority graduation rates correlated positively with college selectivity (Kane 1998, pp. 443-48). In an important follow-up study, Small and Winship using the *College & Beyond* data set found that after controlling for background characteristics, attending more selective institutions was not only associated with higher graduation rates for African American students, but the magnitude of the black-white gap in graduation rates also narrowed considerably:

In institutions of very low selectivity (2 SD's below the mean), a black student with average characteristics has a probability of graduating about 13% points lower than a white student with

³⁸ Space considerations mean that our review of the literature and discussion of undergraduate outcomes is an abbreviated one, particularly in comparison to our discussion of the law school data. For a detailed synthesis of the literature coauthored by one of us, see the review of Sander and Taylor's book *Mismatch* by Kidder & Onwuachi-Willig (2014).

³⁹ "Third tier" in the Bowen and Bok study is not "third rate." All these schools are high prestige, selective institutions. Bowen and Bok looked only at selective schools because when a school is not selective a student does not need the credentials boost that affirmative action provides.

those same characteristics. In a highly selective school (2 SD's above the mean), the difference narrows dramatically to 3.6% points... Thus, the evidence is consistent with the notion of group-level processes by which black students "catch up" to the selectivity of their peers (Small & Winship 2007, p. 369).

In light of these findings, Small and Winship conclude that attending selective institutions "helps blacks more than it does whites . . . [T]he strong effects of selectivity demonstrate a clear benefit of Affirmative Action in elite institutions" (p. 372).

Another study by Fischer and Massey used the National Longitudinal Survey of Freshmen (NLSF), covering the same institutions as Bowen and Bok (plus UC Berkeley) but ten years later (1999 entering freshmen), and looked at college GPAs and the odds of dropping out after controlling for background characteristics. Their estimates "provided no evidence whatsoever for the mismatch hypothesis. In no case did we find that having an SAT score below the institutional average undermined the performance or well-being of individual minority students. If anything minority students who benefited from affirmative action earned higher grades and left school at lower rates than others, and they expressed neither greater nor less satisfaction with college life in general" (Fischer & Massey 2007, p.544). In fact, when Fisher and Massey specifically investigated whether greater distance ("mismatch") between minority students' SAT scores and the median SAT score in the same institution had a relationship with dropping out, they found:

[T]he degree of an individual's likely benefit from affirmative action is *negatively* related to the likelihood of leaving school, and the effect is highly significant. For each 10 points increase in the gap between the individual's SAT score and the institutional average, there was an 8.5% *decrease* in the likelihood of leaving college (p. 541).

A companion study likewise concluded that "the stronger an institution's apparent commitment to affirmative action, the lower the likelihood minority students would leave school" (Massey & Mooney 2007, p.114). Consistent with these results are findings from two studies of students entering eight of the colleges in the *College and Beyond* sample in 1993 and 1997. After controlling for many factors (Espenshade & Radford 2009, pp. 233-40, 262) as well as interaction effects (Golann et al. 2013) these researchers found that although black and Latino students attending elite institutions ranked lower in their classes than they would have had they attended less selective schools, this was more than offset by higher graduation rates and better career and graduate school outcomes.

In *Crossing the Finish Line*, Bowen, Chingos and McPherson, looked at 21 "flagship" public universities, plus the public university systems in four states. Most of these schools lacked the large endowments and abundant institutional resource of the private schools Bowen had studied with Bok. Nevertheless, African American males had higher graduation rates if they attended more selective institutions, even after controlling for high school GPA, SAT scores and other background factors, and the relationship between graduation rates and institutional selectivity was even stronger among Latinos. In summary, Bowen, Chingos, and McPherson found "no support whatsoever for [the mismatch] hypothesis," and they concluded that students from all backgrounds, including underrepresented

minorities, are "well advised to enroll at one of the most challenging universities that will accept them" (Bowen et al., 2009 p. 228).

Consistent with these results is the work of Arcidiacono and Koedel who had access to particularly rich data, including high school quality and performance records, for students attending any school in Missouri's public university system. Their data indicate that if affirmative action ended there would be a small *negative* effect on black student graduation rates (Arcidiacono and Koedel, forthcoming). Moreover, they report that:

[T]he two urban schools (Kansas City and St. Louis) as well as the four least selective schools (Missouri Southern, Missouri Western, Lincoln and Harris Stowe) lag significantly behind the others in terms of predicted graduation rates. These schools are behind regardless of initial major or where in the academic index distribution we look. Consider the median African-American student. [T]his student's predicted graduation probability as a non-STEM major at Central Missouri would be 56 percent. This is 12 percentage points higher than at Lincoln and 15 percentage points higher than at Kansas City. In fact, moving from any of the least-selective or urban schools to any of the moderately selective schools corresponds to a large increase in her likelihood of degree attainment. A general takeaway ... is that the universities in which African American students are most overrepresented in the system – the least selective and urban campuses – are also the ones with the lowest graduation rates conditional on students' pre-entry preparation.

Much of what Arcidiacono and Koedel found does not directly relate to affirmative action because except for the most selective of Missouri's schools, and its flagship institution the University of Missouri at Columbia, affirmative action does little to swell the ranks of African American students on state college campuses, but it does relate to mismatch theory. Mismatch theory predicts that students will do worse if they attend schools where their academic credentials are below those of most other students. This is not what Arcidiacono and Koedel found.⁴⁰

III.B. Studies that Address Selection Bias

Mismatch advocates such as Sander and Taylor have argued that the research findings we discuss above present a false portrait because they do not account for selection bias. Their claim is that controlling for available measures of academic potential, like SAT scores and high school grades, does not mean that students attending more or less selective schools are equally skilled because those admitted to the more selective schools are likely to have shown greater evidence of academic strength through channels the researchers could not measure, like application essays, interviews, and letters of recommendation. The concern is a legitimate one but hardly dispositive. The signals sent by unmeasured variables would have to be particularly reliable, strong and widespread for selection bias to account for the failures of mismatch theory reported in the studies we have just described.

⁴⁰ In a study focusing on post-209 graduation rates at the University of California campuses Arcidiacono et al. (2013) believe they have found results consistent with mismatch, but the claim is problematic because of flawed data and questionable interpretations of results (Kidder & Onwuachi-Willig 2014, Chingos 2013).

Nevertheless, Sander and Taylor, citing the work of Bowen and Bok (1998), Light and Strayer (2000), Lorry and Garman (1995), and Alon and Tienda (2005), claim that: "Taking [selection] bias into account, these studies as a group provide substantial – if not definitive – evidence that mismatch reduces minority graduation rates" (Sander and Taylor 2012a, 107-08). But this is not what the authors of the cited studies claim, and Sander and Taylor's reinterpretation, which is based more on wishful theorizing than empirical data, is far from convincing.⁴¹ It is also inconsistent with the results of studies that have sought to account for selection bias.

Alon and Tienda (2005), for example, blended three statistical methods (rooted in different assumptions) to grapple with selection bias – propensity scores, matching estimator, and the use of a dummy variable to account for selection on unobservables. They examined data not just from the selective schools in the *College and Beyond* survey but also from two other representative samples (*High School and Beyond*, and *National Longitudinal Survey* (NELS)). Their conclusion based on their diverse data sets and methods, including methods designed to control for selection bias, was "that affirmative action practices both broaden educational opportunities for minority students and enable minority students to realize their full potential" (Alon & Tienda 2005, p. 309).

Dale and Krueger in a series of studies focusing on returns to education in the form of earnings (2002, 2011, forthcoming) controlled for selection bias by restricting comparisons to "students who were accepted and rejected by a comparable set of colleges, and are comparable in terms of observable variables" (2002, p.1492). Although their approach has engendered a modicum of controversy (Hoxby, 2009; contra Dale & Krueger 2011 and forthcoming), even prominent critics of affirmative action have praised it, characterizing its methods as "ideal," (Williams 2013, p. 185); "the most reliable way of measuring mismatch" (Sander 2005, p. 2016), and a "clever analysis" (Sander & Taylor 2012a, p. 108). Moreover, the leading methodologists who submitted an amicus brief in *Fisher* criticizing the research that purported to support mismatch theory praised Dale and Krueger's two papers for employing a "careful methodology" (2012, p.25).

Dale and Krueger's first article employing this approach (2002), examined the long-term earnings for students in the 1976 cohort of the *College and Beyond* data set. Its results are interesting, but the sample contained too few matched African Americans to allow data-driven conclusions about the mismatch hypothesis. Their more recent study does not, however, have this problem. Looking about 14 years after graduation at people who had entered schools much like those in the *College and Beyond* data set, they found that attending more selective schools had boosted the earnings of affirmative action minorities:

First, for the 1989 cohort, the estimates indicate the effect of attending a school with a higher average SAT score is positive for black and Hispanic students, even in the selection-adjusted model. Second, our results suggest that students from disadvantaged family backgrounds (in terms of educational attainment) experience a greater benefit from attending a college with a higher average

⁴¹ See Kidder & Onwuachi-Willig 2014; Lempert, Kidder & Levine 2012 (delineating problems in Sander and Taylor's reliance on Light and Strayer and on Lorry and Garman).

SAT score than do those from more advantaged family backgrounds... (Dale & Krueger forthcoming, manuscript at p. 25).⁴²

These results are even more striking and less consistent with mismatch theory because white students attending more selective schools who are not by background generally disadvantaged do not enjoy a similar benefit. Moreover, Dale and Krueger's findings about the wage premium that African American and Latino alumni achieve relative to similarly qualified black and Latino students who attend less selective institutions do not stand alone. Others report similar results (Kane 1998; Bowen & Bok 1998; Monks 2000; Daniel et al. 2001; Long 2010; Espenshade & Radford 2009; Fryer & Greenstone 2010).

Melguizo (2008) adapted Dale and Krueger's approach to a study of college graduation rates in a nationally representative sample (the *National Education Longitudinal Study*). She found that the "relatively high and positive impact of attending ... highly selective institutions remained significant in the case of minorities." (p. 231). Moreover, Dale Krueger's approach was not the only technique she employed to control for selection bias. Summarizing her various analyses using different methods to control for selection bias she concluded, "These findings suggest that affirmative action policies are positive not only in terms of increasing the number of minorities enrolled in selective institutions, but also that once there, minorities benefit by having higher probabilities of attaining a bachelor's degree." (p. 232).

To sum up, although a theoretical objection can be made to the first set of undergraduate affirmative action studies we discussed because they fail to control for selection bias, empirically the objection fails. Studies that do control for selection biases also find that minority students do better when they attend the more selective schools that admits them.

III.C. *Natural Experiments*

Others have sought to test for mismatch while accounting for selection bias by investigating various "natural experiments." Cortes (2010) took advantage of the Fifth Circuit Court of Appeals' 1996 ruling in *Hopwood v. State of Texas* – which until abrogated by the 2003 *Grutter* ruling barred race-based affirmative action by Texas's state supported schools but allowed formally race-neutral substitutes, which in Texas was most predominantly a plan that guaranteed admission to students finishing in the top ten percent of their high school class. Using top decile students as a control group and focusing on degree attainment by students in the second and third deciles of their high school classes, Cortes compared African American and Latino graduation rates with white graduation rates at six public universities which differed considerably in selectivity: UT Austin, Texas A&M at College Station, Texas Tech, Texas A&M at Kingsville, UT San Antonio and UT Pan American. She found that after *Hopwood* the gap between minority and non-minority graduation rates widened by one-fifth (from -25 percentage points in 1990–1996 to -30 points (i.e., 39% v. 69%) in 1998-99. The mismatch hypothesis would lead one to expect the opposite: graduation rates for the second and third decile students should

⁴² Dale and Krueger's approach was also used by Chen, Grove and Hussey (2012). They examined MBA programs and found a large positive effect on minority earnings from attending a selective business school.

increase (and racial gaps should shrink) post-*Hopwood* since as beneficiaries of neither affirmative action nor the Ten Percent Plan, these students should have been attending schools where they were better matched to their fellow students.

Kurlaender and Grodsky (2013) took advantage of a different kind of natural experiment. During the 2003-2004 fiscal year budget cuts affecting the California University system led UC Berkeley, UCLA and UC San Diego to deny admission to numbers of students, presumably the weakest of their (eventually admitted) applicants not just on measured variables but also on whatever unmeasured variables affect admissions decisions. Later, however, the budget picture for these schools brightened somewhat and large numbers of students originally denied admission, were admitted later in the summer/fall. These students would have been the most mismatched of those in their cohort since they would have been clustered at the bottom of those who had been given offers, with academic credentials, including "soft" credentials like letters of recommendation, well below their school's median. Looking at their performance over the next four years, Kurlaender and Grodsky concluded that mismatch "has no reliable or substantively notable bearing on grades, rates of credit accumulation, or persistence."⁴³

III.D. School Selectivity and Graduation Rates

We have to this point reviewed much of the extant empirical literature that examines the effects of so-called academic mismatch on minority student performance. Here we present data that show directly how African American and Latino students fare relative to white students when they are admitted to selective undergraduate institutions. This is not a mismatch study, for we are not controlling for academic credentials, but the data do cast light on whether mismatch or anything else is causing African American or Latino students serious problems and, if so, whether these problems are exacerbated when these affirmative action eligible students attend more prestigious institutions. Table 2 below presents African American and Latino six-year graduation rates at one hundred universities that have the "Research University-Very High" (RU-VH) Carnegie classification and sufficient data using federal/NCAA graduation rates (gaps versus white students are in parentheses) for college students in classes entering in the years 2003 through 2006. Universities are arrayed from left to right based upon freshmen selectivity, with twenty schools in each quintile. The data include graduation rates for nearly 90,000 African American and over 100,000 Latino freshmen.

⁴³ This study reported retention data through four years, which is similar to but not the same as graduation rates. The mismatched students in this group were the original marginal "rejects" and many, no doubt, had admissions indices closer to the mean of the classes they entered than some minority students who had been admitted under affirmative action programs when they were legal in California. Still the results run counter to the predictions of the mismatch hypothesis. If the mismatch hypothesis does not apply to this low scoring group it must be reformulated to specify the degree of mismatch needed to trigger adverse effects. Whatever that degree is, if it exists at all, it appears from the numerous studies we have cited that it is not exceeded by affirmative action programs as currently implemented.

Sander and Taylor (2012, 2013) advance questionable claims about UC graduation rates after Prop 209 (see Kidder & Onwuachi-Willig 2014) and they ignore contrary research by Kurlaender and Grodsky (2013) and Chang & Rose (2010).

At the twenty most selective institutions in the top quintile (e.g., Harvard, Yale, Cornell) graduation rates are highest, often close to or exceeding 90%. Moreover, racial gaps are small. Among the schools in this tier, the black-white gap in graduation rates is, on average, only 5.4 points and the Latino-White gap averages 3.4 points, and at some schools there is almost no difference. Whatever affirmative action these schools are engaging in seems not to be taking a toll on students. As schools become less selective and we move from the middle quintile (e.g., Wisconsin-Madison, UT Austin, Penn State) to the bottom quintile (e.g., Oregon, Georgia State, Arizona State) not only are graduation rates progressively lower, but the black-white and Latino-white graduation rates gaps increase, averaging about twice what one finds among the twenty most selective universities.⁴⁴

These data do not address the mismatch issue directly, but they offer no comfort to advocates of the mismatch theory since there is little reason to think that the mismatch of affirmative action admittees would increase as schools became less selective.⁴⁵ Indeed, to the extent that schools in the bottom quintile are not nearly as selective, an increased share of the minority students at the lowest quintile schools may not have needed affirmative action to gain admission, yet it is the lowest quintile schools with the largest racial gaps. Moreover, some differences between quintiles are easily explainable for reasons that have nothing to do with either the distance between an affirmative action admittee's credentials and the class median (i.e., mismatch)⁴⁶ or the proportion of affirmative action eligible minorities who were in fact admitted with the aid of affirmative action. Schools in the top quintile, for example, are all private and tend to be substantially wealthier than those in lower quintiles,

⁴⁴ The second quintile includes Michigan and North Carolina, which were two of the schools in Bowen and Bok's "SEL 3" tier, so we note that the African American graduation rates (78%, 79%) improved in 2003-2006 compared to the 1989 cohort in *The Shape of the River*.

⁴⁵ Sander and Taylor (2012) elaborate an argument that mismatch is causing greater harm at less selective colleges through a chain reaction or "cascade effect," but this is just opinion made to look like an empirical claim since Sander and Taylor provide scant evidence (much less evidence supporting a causal inference) to substantiate their argument (see Kidder & Onwuachi-Willig, 2014). The "chain reaction" argument does, however, identify a reason why we cannot say, based on these data alone, that the mismatch hypothesis is disproved. Since not every minority student at a particular school benefitted from affirmative action, one cannot rule out the possibility that the subset of minorities admitted to schools in one tier due to affirmative action would have done better had they attended a less selective institution. However, the data that follow in the text go a long way toward suggesting the implausibility of this possibility, and a more elaborate discussion by Kidder and Onwuachi-Willig (2014) which we do not reproduce here cements this conclusion.

⁴⁶ Note that much "mismatch" so defined cannot be attributable to affirmative action which implies that a student would not have been admitted to a school but for his or her race. So long as a school is admitting many white students with credentials well below the campus median, which is pretty much a statistical inevitability, many minority students with below median credentials will fall within the range of a school's normal admits and be no more mismatched than many white students. Using the difference between minority median scores and white median scores to indicate the degree of mismatch is thus misleading unless one wants to argue that white students admitted with below median academic credentials are also, to an extent that matters, mismatched. If they are not, then the degree to which a school's minority students' academic credentials fail to match those of the school's white students the credentials in possibly consequential ways should be measured not against the median credentials of a school's white students but against the academic credentials of the school's lowest scoring but normally admitted students.

which better enables them to minimize drop outs by providing financial, mental health and other academic and non-academic support.⁴⁷

In addition, as we see from the Table, minority students in the top quintile have average graduation rates that exceed the white graduation rate for the second quintile. Likewise, third quintile minority students meet or exceed the fourth quintile graduation rate, just as fourth quintile minority students meet or exceed the white graduation rate average at the bottom (fifth) quintile schools.⁴⁸ Without mismatch, according to Sander and others, African Americans would have nearly the same graduation rates as whites. If this is true, it appears that most African Americans would not have been more likely to graduate had they attended less selective schools where their academic credentials matched those of typical whites.

Particularly telling in this respect is a comparison of the "top ten" public universities in the 2013 rankings by *U.S. News & World Report*, as these schools split evenly between University of California campuses (Berkeley, UCLA, San Diego, Davis and Santa Barbara) where affirmative action is banned under a state law versus campuses that allowed consideration of race in admissions during the 2003-06 period (Virginia, Michigan, North Carolina at Chapel Hill, William & Mary, and Wisconsin). Georgia Tech, the 11th school in the *U.S. News* "top ten" list is an anomaly. Although it was not barred by law from considering race as a factor in admissions, it has elected to be race-blind in admitting freshmen since the mid-1990s (Gose & Schmidt 2001; Blume & Long 2014).⁴⁹ Hence it is appropriately considered with the California schools in comparing graduation rates from schools that did and did not engage in affirmative action admissions. Looking at these top universities we see that those with affirmative action actually had higher African American graduation rates for students starting as freshmen in the years 2003-06 than did the top-ranked campuses where affirmative action was banned (77.2% versus 73.5%).⁵⁰ Within this "top ten" ranking of public universities are several that appear in the second quintile of our table. Again the schools with affirmative action (Virginia 84%, Michigan 78%, North Carolina 79%) do as well or

⁴⁷ The existence of such "institutional effects" that differentiate universities' graduation rates (and tend to correlate strongly with selectivity but still persist after controlling for selectivity) is an important part of the factual landscape surrounding the affirmative action public policy debate (Bowen et al. 2009, pp. 192-204). In this connection, there is considerable overlap between the top quintile in our table and the 30 private universities that are members of the AAU, where the endowment per alumni in 2012 was \$56,959, compared to \$5,852 at the approximately thirty public universities in the AAU (largely in the second and middle quintile in our table) and \$6,710 at the University of California. See University of California, Accountability Report, indicator 12.3.5 (2013), available at <http://accountability.universityofcalifornia.edu/index.php?in=12.3.5&source=uw>.

⁴⁸ The only exception is second quintile African Americans who have an average graduation rate that is a tad below that of third quintile white freshmen (76.0% versus 79.1%).

⁴⁹ Georgia Tech has had a number of programs aimed at increasing the presence of minorities on its campus, including five year combined degree programs with several HBCUs. The graduation rate data we are referencing pertain, however, only to minority students who started as freshmen at Georgia Tech.

⁵⁰ William & Mary is not classified as RU-VH, but is included here to maintain fidelity to the *U.S. News* ranking. If William and Mary were excluded, the mean African American graduation rate for schools using affirmative action would be 75.5%, still higher than the mean of schools not using affirmative action. Using the 2014 version of *U.S. News* would have favored the "with affirmative action" schools because Wisconsin and UCSB slide into a tie for eleventh and Penn State (which had an African American graduation rate ten points higher than Wisconsin's) moved into the top ten.

better than the schools without affirmative action in the same quintile (Berkeley 74%, UCLA 78%, San Diego 78%, Georgia Tech 69%). Other schools in this "top ten" ranking appear in the middle quintile of Table 2. If mismatch due to affirmative action depressed the likelihood of graduating, one would expect African Americans attending these University of California schools and Georgia Tech to graduate at a higher rate than those graduating from schools where affirmative action played a role in admissions. The opposite is true.

Table 2:

African American and Latino Six-Year Graduation Rates at One Hundred Top U.S. Research Universities (Carnegie "RU-VH"), in Quintiles by Selectivity, 2003–2004 to 2006–2007 Freshmen Cohorts⁵¹

Top Quintile (# 1–20)	2nd Quintile (# 21–40)	3rd Quintile (# 41–60)	4th Quintile (# 61–80)	Bottom Quintile (# 81–100)
African American Graduation Rates [AU4] (with Black–White Gap in Graduation Rates)				
88.9% (5.4 point gap)	76.0% (9.8 point gap)	67.3% (11.8 point gap)	56.1% (11.1 point gap)	43.2% (13.7 point gap)
Latino Graduation Rates (with Latino–White Gap in Graduation Rates)				
90.9% (3.4 point gap)	80.4% (4.8 point gap)	71.2% (7.9 point gap)	60.4% (7.9 point gap)	49.0% (6.6 point gap)
Institutions Included in Each Quintile				
Harvard, Yale, Princeton, MIT, Chicago, Dartmouth, Stanford, Wash. U, Columbia, Brown, Notre Dame, Penn, Duke, North-western, Rice, Vanderbilt, Tufts, Georgetown, Cornell, Carnegie Mellon	Emory, Johns Hopkins, USC, Rensselaer, UC Berkeley, NYU, Case Western, Virginia, Georgia Tech, Rochester, North Carolina-CH, Tulane, Michigan, Maryland, G-W, Miami, Illinois U-C, UCLA, UC San Diego, Florida	Boston U, Wisconsin-M, Ohio State, Pittsburg, Minnesota, UT Austin, UConn, VA Tech, Texas A&M, U of Washington, Stony Brook, UCSB, Tennessee, Penn State, UC Davis, Rutgers-NB, South Carolina, UC Irvine, Delaware	Florida State, NC State, Oklahoma, Central Florida, Michigan State, Iowa, Missouri, Purdue, UMass-Amherst, LSU, Alabama-H, UCSC, U at Buffalo, Iowa State, Nebraska, Kentucky, South Florida, U at Albany	Colorado State, Kansas, Cincinnati, Louisville, Oregon, Alabama-B, Arkansas, Illinois-Chi., N. Dakota State, Virginia Comm., Houston, GA State, Wash. State, Arizona, Oregon State, Arizona State, Miss State, UC Riverside, New Mexico, Wayne State

*Table reproduced with permission from Kidder & Onwuachi-Willig, 2014

Although the schools these figures relate to are among America's leading universities, it would be a mistake to make too much of the results because they are based a small numbers of institutions. What matters is that neither these data nor the data for the set of 100 schools suggest that African

⁵¹ A few additional RU-VH universities are not displayed either because data were unavailable or the combined sample for African Americans was below 100: Brandeis, Caltech, Montana State, Hawaii, Rockefeller, Utah, and Yeshiva. For Latinos, there were actually ninety-nine institutions rather than one hundred, and those included or excluded were almost the same but not identical (For space reasons, the table lists only the schools used to calculate the African American figures). For Latinos, the RU-VH universities not displayed are Alabama-Huntsville, Alabama-Birmingham, Caltech, Case Western Reserve, Mississippi State, North Dakota, Rockefeller, and Yeshiva. These small differences in "excluded schools" also account for the small differences in the comparison white graduation rates (e.g., within the second quintile the white rate is 85.8% for the African American row and it is 85.2% for the Latino row). To avoid confusion this is why white rates are not displayed in the table. Table 2 reports unweighted averages for each quintile.

Americans attending research universities face mismatch-induced academic difficulties. Rather the data are consistent with the body of research that finds that African Americans do better at more selective schools, holding academic credentials constant, as well as with those studies which suggest that, if anything, affirmative action endows its beneficiaries with an enhanced likelihood of academic success.

IV. Conclusion

The data we have presented and the studies we have reviewed should disabuse anyone of the notion that abolishing affirmative action will somehow enhance the academic accomplishments and boost the future life chances of minority students. Abolishing affirmative action will, however, reduce the number of well-trained minority professionals and bachelor degree holders. As we have seen, for black freshmen entering top-ranked public universities during the years 2003-2006, six-year graduation rates in the schools that engaged in affirmative action were as high as or higher than African American graduation rates in the comparable schools where affirmative action played no role in admissions. (compare Virginia 84%, North Carolina-Chapel Hill 79%, and Michigan 78% with UC Berkeley 74%, UCLA 78%, and UC San Diego 78%). Although the similarity in graduation rates challenges the mismatch hypothesis, the similarity may suggest to some that little turns on whether a school engages in affirmative action. But from a social policy standpoint these similar rates are misleading. Affirmative action may be less consequential when the question is whether a minority freshman will graduate, but it greatly affects the *number* of minorities who will get degrees, and it is the latter that is socially most important. The military and business leaders whose support for affirmative action was referenced by the majority in *Grutter* didn't focus on the proportion of minority freshmen who got their degrees; their concern was with the number of minority degree holders who available to fill essential leadership and business positions.

To get a better handle on the import of abolishing affirmative action consider that from the 2003-06 freshman classes which entered just before Michigan's Proposal 2 banned affirmative action, the University of Michigan, Ann Arbor graduated over one hundred more African Americans with bachelor degrees than the combined total of degree earners at post-Proposition 209 UC Berkeley, UCLA, and UC San Diego (1,044 versus 909). For the same 2003-06 cohorts, the total number of African Americans earning degrees at the University of Virginia, the University of North Carolina-Chapel Hill and the University of Michigan-Ann Arbor exceeded (3,301 versus 3,216) the total number of black graduates at nine leading public universities that did not use affirmative action (eight University of California campuses plus the Texas A&M College Station campus that elected not to restart affirmative action after *Grutter* abrogated *Hopwood*).⁵² This is not because the three schools with affirmative action are disproportionately large – during this period their combined freshmen class size was just under one third the combined total enrollment of the eight University of California campuses plus Texas A&M.

⁵² UC Merced, a ninth general campus in the UC system, is not included from these calculations because it is so much smaller and only opened in 2005.

The percentage of African Americans graduating from these schools in these six years speaks to the ability of those admitted to achieve academic success, but the number of African Americans graduating speaks to contributions that affirmative action makes to post-college occupational diversity and to the larger society. These are considerations that loomed large when the U.S. Supreme Court upheld the constitutionality of affirmative action in *Grutter v. Bollinger*, recognizing, in the words of Justice Sandra Day O'Connor, that "In order to cultivate a set of leaders with legitimacy in the eyes of the citizenry, it is necessary that the path to leadership be visibly open to talented and qualified individuals of every race and ethnicity" (539 U.S. at 332). The evidence indicates that affirmative action contributes substantially to this goal while the harms it allegedly causes its beneficiaries disappear when the relevant research is closely scrutinized.

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