

## **CAN RACE-BLIND POLICIES PRODUCE A DIVERSE STUDENT BODY?**

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## **Can Race-blind Policies Produce a Diverse Student Body?**

### **Abstract**

It is time to rethink the interaction of admissions policies and student diversity goals before that opportunity is lost to judicial or legislative action. Perhaps it is time to consider whether diversity means more than the racial distribution of a freshman class. Perhaps the concomitant economic, social and demographic disadvantages that affirmative action was to offset should continue to direct admissions programs and offer a more palatable argument for diversity than simple racial composition. But can consideration of factors associated with racial disadvantage yield freshman classes that are also racially diverse? This paper reviews relevant legislative and judicial actions, reports findings of bias in admission measures, examines the extent to which economic conditions function as barriers to attendance in Missouri, and describes the impact of admissions models that attempt to overcome economic and social barriers. In sum, social and economic disadvantage can be used to improve racial diversity beyond that of purely race-blind policies, but improvement is modest and the weighting required heavy.

## Introduction

While the racial discrimination charges that forged many affirmative action programs are greatly diminished, institutional commitment to maintaining a racially diverse student body is not (Lederman, 1998). Public policy has moved from segregated institutions, to integrated schools and universal affirmative action policies, then toward race-blind policies over a few decades. Over this same period, postsecondary institutions have learned the value of a racially diverse student body and abhor the idea of again segregating campuses even if that segregation results from race-blind policies. The extent of commitment to diversity was made apparent in the *Chronicle of Higher Education* advertisement, On the Importance of Diversity in Higher Education (February 13, 1998, p. A48) that was endorsed by about 50 postsecondary associations. How will our institutions balance the forces of race-blind policies and the desire to maintain a vibrant and socially relevant student body? Is it possible to satisfy these competing demands? Can colleges and universities craft fair and valid admissions policies that produce racially diverse student bodies without using different standards for minority students? President Clinton, in an address to U.C. San Diego graduates, challenged the foes of affirmative action to find a better solution to insure diversity (Strosnider, 1997). Given current circumstances, it is a challenge to be taken-up by friends as well.

This paper presents a variety of evidence that there may be reason to reconsider admissions policies on three levels. First, some admissions measures exhibit bias by race or economic and social status. Second, there is reason to believe that financial barriers to attendance exist. And last, there is reason to think that race-blind admissions policies that include adjustments to offset students' social and economic circumstances will yield a more racially diverse student body than would be the case using the type of simplistic admissions standards that may be mandated by legislation or judicial action.

This paper is structured as follows. First, key judicial and legislative actions will be reviewed to illustrate the evolution of racial preferences in the admissions process. Second, the results of original criterion-related validity or predictive validity and selection-bias research will be reviewed to create a foundation for designing new policies that emphasize social and economic diversity and disadvantage instead of race. Third, the characteristics of students in public higher education across Missouri will be reviewed for evidence of economic barriers to access. And fourth, a series of race-blind admissions models designed to offset social and economic barriers will be applied to the student population in an effort to produce multiply diverse student bodies.

## Review of Literature

As has often been the case in judicial and legislative history, legal and political remedies to correct social problems have fallen short of their goals. Such has been the case for the series: racial segregation, discrimination, affirmative action, and race-blind admissions policies. The sad truth is that after 20 years, minority graduates have declined as a percentage of the minority population in general (Astone & Nunez-Wormack, 1990). One reason for this lack of achievement might be over-reliance on an isolated measure of integration.

For thirty years, the concept of a diverse student body at a public university has largely been limited to minority composition generally and in many states, to African-American enrollment specifically. The reason for this myopic focus on proportional distribution is obvious, after segregation laws were expunged, that was the nature of legal challenges to admissions practices and the measure of the success of remedies. But that exclusive focus has apparently been ineffective in overcoming the legacy of legal segregation.

The evolution of racial enumeration as the central measure of the success of affirmative action policies can be seen in key judicial and legislative actions. There have been two federal foundations from which affirmative action policies have been built and then attacked. Constitutional issues of affirmative action programs are based on the Fourteenth Amendment's Equal Protection Clause, passed in 1866, which prohibits states from denying anyone "equal protection of the laws". Statutory issues of affirmative action programs are based on Title VI of the Civil Rights Act of 1964 which prohibits discrimination based on race, color, or national origin for any institution receiving federal assistance and also Title IX of the Education Amendments of 1972, which prohibits discrimination based on sex. Title VI and Title IX regulations require institutions to design and implement affirmative action programs to ameliorate the effects of past institutional discrimination (Heffernan & Bazluke, 1996). Whenever affirmative actions have been taken, success has been measured by changes in racial composition.

*Adams v. Richardson* was filed in 1970 by the NAACP against the Department of Health, Education, and Welfare, charging that its Office of Civil Rights had failed to take appropriate action against 19 states. The suit emphasized the small number of African-American students enrolled at formerly all-white campuses. In the successful suit, student parity was defined as *proportional participation* (Preer, 1981) and the resulting remedies were affirmative action admissions practices and recruitment schemes used to achieve that quantitative parity.

*DeFunis v. Odegaard* was the first case to address the constitutionality of affirmative action in higher education. DeFunis claimed that the affirmative action program in which minority

applicants were considered separately from other applicants at the University of Washington law school was discriminatory and violated his rights under the Equal Protection Clause. Although the case was dismissed as moot, Justice Douglas wrote the dissent, concluding that this admission policy could be unconstitutional unless "...it took account of 'cultural standards of a diverse rather than a homogeneous society' in a 'racially neutral' way." (Kaplan and Lee, 1995, page 401) The court further held that the state had a compelling interest in trying to eliminate a racial imbalance in legal education and practice. Therefore, separate policies to achieve quantitative targets were legal.

Five years later, the Supreme Court ruled in *Regents of California v. Bakke*, that UC-Davis's medical school could not reserve a fixed number of places in its class of new students based on race because the quota system effectively created separate policies by race (Preer, 1981). With *Bakke* the Court began to limit the extent to which racial preferences were justified.

As a result of judicial and legislative decisions, three types of affirmative action programs have been defined that allow for the consideration of race in admissions. The least assertive is a uniform system in which the institution's admissions policy is designed so that standards, while applied to all applicants, also consider qualifications or potential of minority or disadvantaged applicants. The second system, a differential system, is more assertive in that it allows institutions to apply different standards for some individuals when the use of a uniform system would discriminate against disadvantaged or minority applicants. The third system, a preferential system, is specifically designed to provide preference for minority or disadvantaged applicants (Kaplan and Lee, 1995). Only the first of type of admission policy is probably legally defensible in the late 1990s and even its consideration of race as a factor in admissions may now be lost.

In *Hopwood v. Texas* (1996), the Fifth Circuit Court of Appeals ruled that the Law School of the University of Texas could not use race as a factor in admissions. Initially, the federal district court supported two underlying objectives of the admission program, (1) developing a diverse student body and (2) overcoming current effects of prior discrimination. The federal court rejected other justifications of the admissions program, such as compliance with an Office of Civil Rights plan and compliance with an accreditation standard on diversity. On appeal the decision was reversed with two of the three judges ruling that diversity as a basis for such policies was not constitutionally sustainable. The third judge, stated that diversity was a constitutionally sustainable rational, however, since the policy only applied to Mexican-American Hispanics and African-Americans it was unconstitutional. All three judges stated that the school did not fully demonstrate past discrimination as a result of law school actions and as separate from the Texas educational system or society. The only compelling state interest that would justify using race in the admission policy would be if the Law School were remedying past wrongs committed within the Law School. (Garfield, 1997) If institutions must demonstrate responsibility for past discrimination before affirmative action is justified, then few will do so.

In other states covered by the Fifth Circuit Court of Appeals, the *Hopwood* decision has created conflicting standards. In 1995, *U.S. v. Louisiana* resulted in a court approved settlement that permitted the use of race as a factor in admissions to support racial integration at institutions of higher education. Therefore, in Louisiana, judicial decisions appear in direct conflict. The situation is also very confusing in Mississippi, also in the Fifth Circuit Court of Appeals, where a 1980 consent decree mandates that the University of Mississippi law school admit up to 5 African-Americans and that they may use race as a factor in doing so (Healy, 1998).

The evolving judicial environment, where race is increasingly more suspect, is mirrored in California where racial preferences in college and university admissions are now forbidden in law. Proposition 209 bans preferences so that the California public institutions of higher education cannot consider race, ethnicity or gender in admissions. Without direct consideration of race, policies that assert no means by which to offset social and economic disadvantage and instead assert measures associated with social and economic advantage, will obviously result in more segregated student bodies. For example, Berkeley inflates the GPA of students who score well in Advanced Placement. In 1997, over 35,000 white students took Advanced Placement examinations while only 2,412 African-American students took the exam (Stecklow, 1998). The fact that the Ninth Circuit U.S. Court of Appeals has upheld a U.S. Constitutional based challenge suggests that an amendment like 209 will be very difficult to defeat or even alter. For more information on the legal issues surrounding minority-targeted admissions and financial aid, see Hefferman and Bazluke (1996).

These issues are also being debated at the federal level. For example, Representative Frank Riggs of California has proposed a bill, modeled on California Proposition 209 to ban affirmative action programs in higher education and racial preferences in admissions to colleges and universities. Although it has received some strong support, the bill has not passed and opponents say it would be unconstitutional (Lederman, 1998). In other recent congressional action, an amendment to eliminate the federal funding specifically set aside for women and minorities for highway projects was tabled and seen as a positive vote for an affirmative action program (Affirmative action wins a major victory in the U.S. Senate, 1998).

Over the past three decades, the operational measure of *de facto* discrimination has been racial distribution. Proportional representation was typically the first goal of any desegregation effort and remedies that produced acceptable numbers were legally adequate. Now these simple remedies may be forbidden in law. That may be just as well as the results have been disappointing. How disappointing? From 1976 to 1988 the number of 18- to 24-year-old African-Americans increased by nearly 8%, the proportion going to college decreased by about 5%. So while the number attending college increased over this period, the number not attending increased more (Astone & Nunez-Wormack, 1990, p. 32) Perhaps one reason that the results were disappointing was because the admissions interventions did not specifically address the circumstances of disadvantage that were the legacy of segregation – circumstances not limited to minority applicants by the way. Maybe affirmative action would be attacked less often and with less zeal if it were directed toward alleviating the barriers faced by

all in similar circumstances, but more frequently by African-Americans (Fuller & McNamara, 1978).

### **Relevant Admissions Policies**

A timely measure of the complexity that now exists is the admission policy of the University of Michigan. Until this most recent fall, the University of Michigan's freshman applicant evaluation process began with 10<sup>th</sup> and 11<sup>th</sup> grade point average in academic courses then added fractions of a grade point for a variety of factors. These factors included economic, social and educational disadvantage (i.e., under-represented minority group membership, predominate minority high school graduate), familial affiliation (child, grandchild, sibling or spouse of Michigan alumnus), quality of high school, rigor of program of study, and geographical residency (rural Michigan or Western U.S.). While admission practices changed somewhat in 1997 from those attacked in *Gratz v. Bollinger*, the University of Michigan continues to favor minority races. The earlier policy, where applicants were evaluated using one of four different adjusted grade point average by test score grids (minority in-state, minority out-state, majority in-state, majority out-state), has been changed to the use of a common grid where these measures are now weighted like other characteristics consistent with diversity goals. Whether this change nullifies the foundation of *Gratz v. Bollinger* is unclear.

One thing that is clear is that the University of Michigan is not apologetic in its continued commitment to diversity. A question and answer document available from the University's Office of University Relations (December 15, 1997)

([www.umich.edu/~newsinfo/Admission/admisfaq.html](http://www.umich.edu/~newsinfo/Admission/admisfaq.html)) states the following.

"The University of Michigan will continue to use race as a factor in making admissions



predominantly either black or Hispanic. Therefore, the students who are recruited for the program are also predominantly either black or Hispanic. (Texas A & M surgically removes the MCAT test as a prerequisite for admission to medical school, p. 10). The University of Wisconsin System has also focused on outreach and recruitment and these approaches may represent currently viable alternatives to simple race-blind policies. However, they have not withstood judicial judgement. This paper examines another possibility, that social and economic diversity is a worthy goal for public institutions and that disadvantage can be a means to achieving racial diversity.

Alexander Astin (1978) struggled with the question whether any policy that does not specifically consider race might produce a racially diverse student population two decades ago. Astin tried to create admissions policies that would yield the proportional racial distributions then required by law without directly considering race. His effort was founded on the principle that public support for special minority programs was largely support for helping people overcome the social, economic and educational handicaps of discrimination. He noted that public resistance increased as special policies emphasized race rather than social and economic disadvantage. Using a disadvantage index computed from the sum of standardized scores on parental education and income, Astin compared the minority composition of eight alternative admission strategies. Those strategies varied by selection-ratio used, measures included, and weights assigned. When applied to the applicant pool, models that incorporated test scores, either singularly or in combination with other measures, produced the least representative freshmen class. Class grades were less of a problem and a strategy that equally weighted grades and disadvantage yielded nearly proportional representation. In sum, Astin was able to produce accepted applicant groups of nearly any racial composition by varying the admissions measures and weights assigned. Unfortunately, substantial disadvantage weight was required to overcome academic admission measures.

Perhaps Astin's was an idea that should be reconsidered. Perhaps diversity should be viewed more broadly than racial composition and should address the question of overcoming the lingering social and economic vestiges of discrimination instead of numeric targets that ignore disadvantage or even state residence.

Applying Astin's research to the University of Michigan example illustrates the challenge that might be faced if race could not be a factor in admissions. Using the Astin (1978) findings for a selective institution like Michigan (about 1-in-4 admitted), would suggest that Michigan's policies would have to equally weight disadvantage and grades or weight disadvantage twice the amount of grades and test scores to produce a situation where

about 1-in-4 African-American students were selected. According to the *Chronicle of Higher Education* (February 27, 1998; p. A38), Michigan's current policies weight academic factors nearly four times as much as non-academic factors. Using Astin as a guide, the University of Michigan's combination will not achieve the University's diversity goals unless admission counselors continue to apply judgement and use the flexibility inherent in the grid to achieve diversity.

### **Admissions Measures and Predictive Bias**

Before attempting to create diversity through social and economic affirmative action, a better understanding of the interaction of admissions measures, student performance, and economic, social and geographic factors will be useful. After all, any admissions system is a method of limiting access to higher education and as such should pass muster regarding fundamental questions of validity. Are the measures employed useful predictors of academic performance and is their usefulness unaffected by race and social or economic status? In other words, are the required measures valid and are they equally valid for all applicants. The issue is statistical association and it can be simply measured by linear regression or correlational techniques (Linn, 1984).

language, and visual or performing arts). Demographic variables considered included race (African-American or other), high school student body wealth (quartile based on percentage of students qualifying for free- or reduced-price lunches), parental adjusted-gross-income quartiles (from FAFSA submissions), and parents' level of education (neither had college degree, one had college degree, or both had college degree). The dependent measure of academic performance was fall grade point average for degree-seeking, full-time freshmen who were recent graduates of Missouri high schools. Throughout the paper, African-American students will be the only disadvantaged minority identified because, proportionally, Missouri has very few American Indians or Hispanic students – too few to support separate analysis.

The following observations pertain to Table 1 and associated figures. The top half of Table 1 displays simple correlations of ACT, class rank, and high school GPA with freshman GPA by parental income, parental educational level, and high school student body wealth. The correlations were computed separately for African-American students and all other students and the absolute value of the difference between these two groups is shown. The number of observations in the correlation are also shown. The bottom half of Table 1 reports mean values,

## ACT

ACT's predictive validity has been shown to be remarkably unassociated with demographic variables in past studies at the University of Missouri. While not as strongly correlated with freshman grade point average as high school performance measures, it has been very consistent. In this study, its overall correlation with freshman GPA was 0.39 (n=4,488). For African-Americans it was 0.36 (n=301) and it was 0.39 (n=4,187) for all others. Not only were these correlations similar, the correlations across parental education, income, and high school wealth were generally of similar strength. However, there were a few exceptions. For African-American students in the 2<sup>nd</sup> quartile of high school wealth, the correlation was not significant at a 0.05 level. The correlation was also not significant for first-generation African-American students. In these cases, and for African-American students whose parents earned \$44K to \$66K, the sample sizes were fairly small and except for first-generation students, probably of little importance. The correlations for other students display

point average worked as well for African-American students. The numbers were unfortunately small, so the possibilities suggested will have to be pursued at another point. In any event, the regression lines were close throughout the range of most high school grade point averages, so separate equations were probably not justified even though the variance explained by the African-American regression was nearly 10% less than that for other students. Even at 24% of variance explained for African-American students, high school grade-point-average was well above the 13% variance explained by the less economically affected ACT.

#### Percentile Rank in High School Graduating Class

High school class rank does not predict freshman performance as well for African-American students as for other students. The simple correlations differed by 0.21 and variance explained differed by 14%. The pattern across variable levels was not clear but the large differences and the frequency of low correlations was cause for some concern. When this analysis was compared to that of an earlier University of Missouri study based on a larger student population of over 10,000 students, campus-level analyses were possible. These campus level results show that high school student body wealth is an important factor in explaining the weaker correlation for African-American students. One explanation is that high school rank serves as a less suitable predictor for students from poorer high schools and African-American students were over-represented in poorer high schools (Chatman, 1992 and 1996). The regression equation and resulting second figure illustrate that the differences were fairly pronounced (difference of 0.15 GPA or greater) for ranks at about the 50<sup>th</sup> percentile or less or the 80<sup>th</sup> percentile and above and these were fairly common levels of class rank.

Subtlety of interpretation for an observation of systematic over-prediction was mentioned earlier and will be described here using the relationship between class rank and freshman GPA. At most levels of class rank common for university students, use of a common regression equation would tend to over-predict the performance of African-American students. Note that the majority of observations occur above about the 65<sup>th</sup> percentile where the two lines intersect. For any class rank above the intersection, an African-American student's performance would be predicted to be higher using the line for other students although either line would yield similar predicted values throughout the range from about the 50<sup>th</sup> percentile to the 80<sup>th</sup> percentile. Notice that the regression lines differed because the correlation was much less for African-American students and if separate admission policies were created based on a predicted GPA, 2.5 for example, the policies would differ greatly. The class percentile rank predicting a 2.5 for African-American students was the 52<sup>nd</sup> percentile. For African-American students, it was the 35<sup>th</sup> percentile. For ranks below the intersection, separate policies would make access easier for

African-American students. Below the intersection, separate policies would advantage African-American students. Above the point of intersection, the reverse would be true. If the admission policy were a predicted GPA of 3.0, and separate equations were used, then the required class rank for other students would be the 79<sup>th</sup> percentile and the 97<sup>th</sup> percentile for African-American students. Fewer African-American students would qualify for grade point averages above the intersection. So while systematic over-prediction was found which would systematically advantage African-American students, over-prediction was limited to the range above the intersection of separate regression lines. All things considered, high school percentile rank was a valid predictor but functioned less well for African-American students.

Before states move to race neutral policies, it might be to their advantage to access again the validity of those measures that are being considered. If those measures do not function equally well for students of different races or of different economic or social circumstances, then their “blind” use is questionable. In general, the results here support those of Breland (1985) who noted that high school GPA and high school class rank had less differential impact in admissions than did regression-based models including test scores. Unfortunately, Breland did not report how well these measures predicted performance.

Ideally, a state’s public university student body would look similar to its citizenry. It would include poor and wealthy males and females from all parts of the state who were black and white and the student body would include students from other states and nations to create a more stimulating learning environment. In the ideal world, this would be accomplished by applying common admissions standards to all applicants because all groups score equally well and the standards are equally effective in predicting academic performance. In the real world, proportional representation will not happen unless the admission standards go beyond test score, high school GPA and class rank and it will not happen unless the associated patterns are better understood. The next section attempts to clarify attendance patterns that exist within racial, economic and social contexts. It then assesses the effectiveness of economically and socially-based interventions to overcome the apparent tracking.

### **Methodology and Results**

These analyses were made possible by the support of the Missouri Coordinating Board and Department of Higher Education that is in the process of reviewing its admission guidelines established in 1992. The 1992 guidelines created four tiers: highly selective, selective, moderately selective, and open enrollment institutions based on the sum of test score percentile rank and percentile rank in graduating class. Nearly a year ago, a University of Missouri Task Force on Access had concluded that statewide context would be required to determine whether

financial and social barriers to access exist as enrolled students clearly had overcome any barriers. Missouri's Commissioner, Dr. Kala Stroup, recognized the University's need for broader information and, for purposes of this research initiative, joined the project by providing access to records on student-level enrollment (EMSAS), financial aid applications (FAFSA), and test score records (ACT). These records made possible an examination of the interrelationship of economic circumstance and attendance among public institutions that vary in program offerings (2- or 4-year), cost, location, and selectivity of admissions requirements.

EMSAS records included all first-time freshmen enrolled at Missouri's public postsecondary institutions in the fall of 1997. Both FAFSA and ACT records included many of these students and many others. Ideally, the relationship between ACT, FAFSA and EMSAS records might help locate students with an interest in higher education who did not enroll, but

similar among the three sources. The largest differences were found when comparing likelihood of completing core requirements in high school. The core requirements for all public 4-year institutions in Missouri's are minimally 4 English, 3 math, 2 science, 3 social studies, 1 art or performance, and 3 electives from these areas or foreign language. In addition, the University of Missouri requires 1 more unit of math, 1 more unit of science, 2 years of a single foreign language, but does not require additional electives. Using transcript records reported by the institutions or from ACT when EMSAS records were not available showed that students with FAFSA records were somewhat more likely to have complete the core (85% v. 80%) but the differences are fairly small. The last variable used to compare students from the three data sources was wealth of the high school attended. Wealth of high school was defined according to the student body, specifically, according to the proportion of students attending the high school who qualified for free- or reduced-price lunches. All public high schools were sorted into one of 4 groups that represented an equal number of total enrolled students (not equal numbers of high schools). This information was made available by the Missouri Department of Elementary and Secondary Education. By way of explanation, if students from high schools in the quartiles were equally likely to attend college, the distribution should have been uniformly 25%. The fact that students from high schools in the poorer quartiles were less likely to attend college is a first indication that economic circumstance might be a barrier. However, the more important feature here is that the distributions were very similar among the three sources. In sum, FAFSA students, ACT students, and EMSAS students were similarly distributed along demographic and economic dimensions. But, while the distributions are similar, there is surprising variation among institutions.

#### Table 2

Table 3 reports the match of EMSAS and FAFSA records. Clearly, students attending 4-year institutions were more likely to complete FAFSA forms and students attending more expensive 4-year institutions were more likely to submit forms than were students attending less expensive institutions. The relationship between proportion submitting applications and cost does not hold for 2-year schools. Among 2-year schools, the proportion submitting FAFSA forms varied widely from 60% at West Plains to 21% at the Jefferson and Longview campuses of the Kansas City Metropolitan Community Colleges. This variation is a reminder that regions of Missouri are not equally prosperous. The districts served by 2-year institutions may be relatively poor, as was true of the rural southeast and north-central areas, or relatively wealthy as was true of Kansas City and St. Louis suburban areas. These differences will be made more clear subsequently. At this time, the more important point is that 2- and 4-year institutions will



not be equally represented by FAFSA records. That is not to say that the students attending these institutions necessarily differ in economic status but they might. It may well be the case that application is more a function of cost and so students planning to attend 2-year schools are less likely to foresee a need for support.

Table 3

### Selectivity

In Table 4, the 13 public 4-year institutions were sorted into 1 of 4 tiers based on selectivity. Missouri public 4-year institutions require students to submit high school rank and test scores and admission is generally based on the combination of high school percentile rank in class and national norm test score percentile (ACT's 1991 high school graduating class norms were used here). Some students submit SAT scores but the number is relatively small and these have been converted to equivalent ACT scores. The use of combined percentiles reflects a statewide effort to create 4 levels of admission selectivity: highly selective, selective, moderately selective, and open-enrollment. While each institution has identified a selectivity category, for many institutions, the category standards tend to function more as a goal than as absolute standards. Because schools vary in practice from the selectivity category standards, a different method was used to sort them into tiers. For the purposes of this study, the schools were sorted according to the 10<sup>th</sup> percentile of the combined percentile distribution. The assumption was that any student with a combined percentile at or above the 10<sup>th</sup>

### First-Generation

Statewide, 40% of students were first-generation -- neither of their parents had graduated college. Of the remaining 60%, about half had one parent with a college degree and half had two parents with college degrees. The most striking observation about Table 5 is that parental education follows the same trend as did FAFSA application and selectivity. Generally, first-generation students were more likely to enroll at 2-year institutions and were more likely to enroll at the less selective 4-year institutions. In contrast, it was unusual for children of college educated parents to attend 4-year public colleges or community colleges. Again, there was much variation among institutions within type.

Table 5

### High School Core

The trend of selectivity correlating with cost, FAFSA application, and parental education continues in Table 6 where likelihood of high school core completion follows the same pattern. Statewide, 80% of freshmen completed a college-preparatory core in high school as did 92% of those attending 4-year institutions. Noting that these proportions were limited to those with data available either as transcript records from EMSAS or self-report data from ACT, the proportions were striking. Completion of a high school preparatory core was clearly associated with 4-year school selectivity and 2-year school enrollment. One characteristic of core that makes analysis even more interesting is that core is the result of behavior within the student's control. Students do not pick their parents or their economic circumstances, but they can pick their high school courses.

Table 6

### High School Student Body Wealth

Table 7

Parental Adjusted-Gross-Income

Table 8 was generated by creating four groupings of equal number of students based on their parent's reported income. Therefore, a distribution of 25% in each quartile was forced upon the data by using breakpoints at about \$25K, \$44K, and \$66K. Generally, students from less wealth homes were more likely to enroll at 2-year institutions and at less selective 4-year institutions. With few exceptions owing to suburban location, there were relatively few wealthy students attending 2-year community colleges or 4-year colleges. In contrast, there were relatively few students from the least wealthy group attending schools in the two top tiers. Together with Table 7 that displayed the distribution by high school student body wealth, it would appear that the wealthier students from the poorer schools were increasingly likely to enroll in more selective 4-year universities.

Table 8

pattern among the regional universities of the 3<sup>rd</sup> tier and the colleges of the 4<sup>th</sup> tier appears geographically determined.

Table 10

### Measures of Central Tendency

The median values of four descriptive measures are shown in Table 11: parent's adjusted gross income, ACT, percentile rank in high school graduating class, sum of ACT and class rank percentiles, and straight-line distance from county of high school to county of postsecondary institution. These measures are shown for each of the 4-year institutions and for groups of students clustered by parent's educational level and income. Median income clearly shows a direct association with selectivity. Students from less wealthy families tend to enroll at less selective universities and colleges and families in which parents were better educated had higher incomes. Selectivity was logically associated with ACT score, high school class rank, and total of score and rank as these were the measures used to admit students. Less obvious was the fact that ACT score varied directly with parents educational level and income and, to a lesser extent, so did high school class rank. Linear distance was also generally associated with institutional selectivity and students with better educated and wealthier parents traveled further on average for higher education. Median distance is a marginally useful measure as it only describes the middle case and for most of these institutions, linear distance was distance from nearest major urban center.

Table 11

Taken singularly, these variables suggest that economic and social barriers do exist but that the nature of barriers is complex. Four-year institutions generally, and more selective 4-year institutions especially, tended to enroll students with more advantages: better educated parents, parents have higher income, students attended high schools with fewer poor students. Students from these conditions tended to score higher on the ACT, were more likely to complete the core course requirement in high school, and were willing to travel further to attend school. Table 12 begins the task of examining some of the key interrelationships among variables.

### Interrelationships

Table 12 shows the joint distribution of parental education and income. Collectively, there were few surprises. In general, better educated parents had higher incomes (40%) but many did not. Fourteen percent of families where both parents had college degrees earned less than \$25K. Conversely, an equal percentage of families where neither parent had a college degree earned more than \$66K. One compelling observation to be made of these data is that parental educational level was very clearly associated with income. Also noteworthy was the

fact that students with better educated parents attending 2-year schools were more likely to be from the atypical group with income less than \$25K and first-generation students whose parents

selective schools specifically and are willing to travel further to do so. In contrast, first-generation students tend to be from poorer families, attend high schools with more poor students, have lower ACT scores, and are less likely to have completed a college preparatory core. Subsequently, they are more likely to attend 2-year institutions. Put simply, this is not a playing field that can be made level by need-based financial aid offered for college attendance. Access to more selective 4-year institutions is made more likely by the existence of available aid but economic and social barriers to attendance at 4-year institutions generally, and more selective institutions specifically, continues to be a problem.

The tiers were defined as students with totals of 50, 80, 110, or 140 and above. Recall that these are roughly the totals that fell at the 10<sup>th</sup> percentiles for clustered 4-year institutions. Also note that the tiers are cumulative in that students who qualified for the most selective tier also qualified for the least selective tier. This is especially important in Missouri because this state has a system of overlapping tiers with competing merit-based scholarship programs.

Table 16a

Using race-blind policies without adjustments for social and economic barriers would produce pools of admitted applicants that were 2.7% African-American in the most selective tier, 3.9% in the next tier, 5.0% in the third tier, and 5.6% in the most open tier. Each cross-tabular display in Table 16a shows the resulting percentage produced by adding various numbers of points to the percentile totals based on high school student body wealth (poorest quartile), parental adjusted gross income (less than \$25K), and the combination of both. In the extreme case for tier one, 75 points were added for a parental income less than \$25K and 75 points were added for high school in the lowest quartile based on percentage of students qualified for free- or reduced-price lunches. In this extreme intervention, a student from a poor family who attended a poor high school would have 150 points added to their percentile total and would automatically qualify for admission to the most selective tier (minimum of 140). In this extreme case, the percentage of the admitted pool of students who were African-American was 5.2%. Speaking generally, adjustments for parent's income were slightly more successful than those for school wealth.

While the weightings were unable to reach the target value, the tables do show that base-rate racial distributions can be significantly improved by modest social and economically-based adjustments common to students of all races. What intervention would have been required to reach parity if the policies were race-conscious? An adjustment of 41 points for African-Americans would produce a top tier pool that was 6.1% African-American. Not surprisingly, the most efficient way to reach racial distribution targets was by race-conscious adjustments.

Tables 16b and 16c ignore race and address the question of what adjustment would be required to create accepted pools by tier that were distributed the same as the larger pool according to school wealth and parental income. The adjustments again considered both high school student body wealth and parental income. It should be no surprise that under-representation by high school student body wealth was overcome with fewer additional points when those points were based on attending a poorer high school and vice versa. An

intervention designed to directly combat under-representation will do so with fewer points added than interventions based on other characteristics.

To reach parity by parental adjusted gross income of \$25K or less, only about 10 points need be added based on parental wealth while nearly 75 points were needed based on wealth of high school student body. Reaching parity by student body wealth required about 10 points added based on student body wealth or about 50 points added based on parental income of \$25K or less. Interventions providing advantages for both poor parents and poor high schools did not fare much better than the more focused interventions that directly intervened toward the target.

#### Tables 16b and 16c

The potential success of a Texan approach of admitting students based on high school



economic barriers to postsecondary attendance exist among public institutions in spite of affirmative action programs and financial aid opportunities? And fourth, can admissions models designed to overcome social and economic barriers faced by students of all races produce racially diverse student bodies?

The review of important judicial and legislative actions acknowledged the movement from segregation to integration with the concomitant issue of evidence of discrimination and of compliance. Put succinctly, the evidence of discrimination and later compliance was largely enumerative. It was suggested that the emphasis on proportional representation might have led to simple affirmative action efforts that have, in turn, been of limited success and are now being attacked. After all, if a public institution were to achieve proportional representation by offering full scholarships to middle-class minority students from other states based solely on race, some backlash should be expected. It was argued that policies designed to offset economically related disadvantages would have a higher likelihood of acceptance and perhaps even long-term success.

The second question addressed an issue that is fundamental in admissions but is often overlooked. Are the admissions measures required valid predictors and are they equally valid for students of different races and different circumstances? The issue of race-bias in admission is not made moot by judicial action or legislation that eliminates race from the admissions process. If a uniformly applied admission policy incorporates a measure that effectively eliminates a minority race, it had better be able to demonstrate that the measure is an effective, bias-free, predictor of postsecondary academic performance. Three measures were studied: ACT, high school GPA in core courses, and percentile rank in high school graduating class.

institutions were more likely to be from more wealthy families, to have attended high schools with fewer poor students, and to have parents who both graduated college. These students were more willing to travel further to attend school and were more likely to have completed a college preparatory core while in high school. They also had higher ACT scores. As African-American students were more likely to be from poorer circumstances, they faced admissions barriers more often.

The fourth question attempted to obtain proportional racial representation by offsetting the economic disadvantages more often experienced by African-American students. Can proportional representation be attained by overcoming those economic barriers faced by minority and majority students? Yes, or at least representation in the pool of accepted applicants can be much improved. In terms of the admitted pool, relatively modest point-based interventions can overcome the social and economic barriers, but much larger point-based interventions were required to reach racial parity. Whether the magnitude required for racial parity would be publicly acceptable is questionable. A switch to admissions based on class rank

more likely to drop out (Cabrera, 1990) and the increasing reliance on loans to create access leads to striking long-term disadvantages in accumulating capital (Francis, 1990).

### Limitations

There are many limitations associated with this study. Some of the more threatening are the extent to which students submitting FAFSA forms were representative of students generally, whether the characteristics of the accepted applicant pool would mirror the matriculating student pool even with targeted incentives, and whether institutions could manage the numerically larger pools so that minimum requirements were not simply raised to limit access. Last, the extent to which Missouri patterns were typical of other states is unknown. While Missouri is near midrange on many rankings, including Pell Grant participation rates, it is low on the list when it comes to need-based awards (Johnson & Katsinas, 1997). Also a problem for those from many other states is the paper's exclusive focus on African-American students. Even if Missouri's patterns are similar to those found for other states, the patterns for African-Americans might differ from state to state and might differ from those for other disadvantaged minorities.

### **Comment**

Institutional researchers are encouraged to perform similar analyses for their states before the opportunity to influence policy is lost to legislative action or judicial prerogative. Perhaps information like that presented here will work to better inform decision makers of the likely consequences of the alternatives before them. At the very least, the decision to move to race-blind policies need not be race-ignorant.

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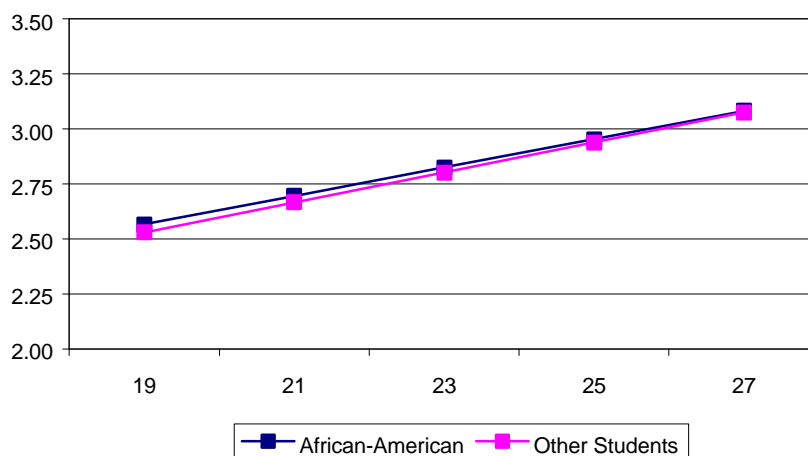
Texas A & M surgically removes the MCAT test as a prerequisite for admission to medical school. *The Journal of Blacks in Higher Education*. Spring, 1998. 10.

# **TABLES AND FIGURES**

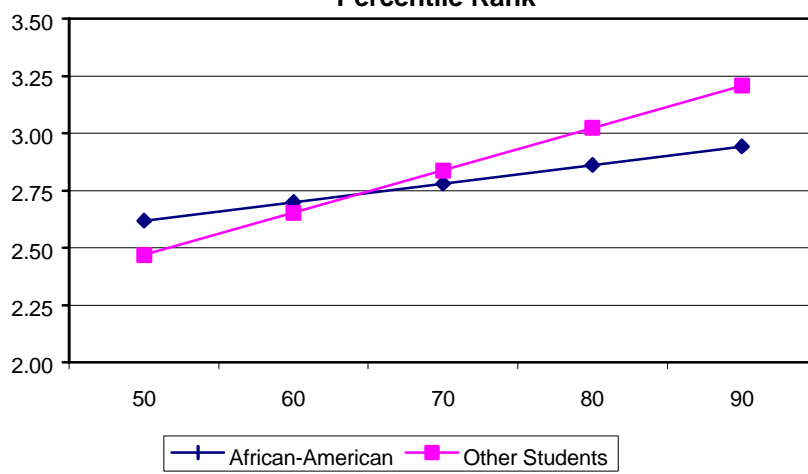
**Table 1: Correlations Among Admissions Measures (University of Missouri Freshmen in Fall, 1997)**

|                  | <b>ACT</b> |           | <b>High School Class Rank</b> |  | <b>High School GPA</b> |
|------------------|------------|-----------|-------------------------------|--|------------------------|
| African-American | All Others | Abs. Val. | African-American              |  |                        |

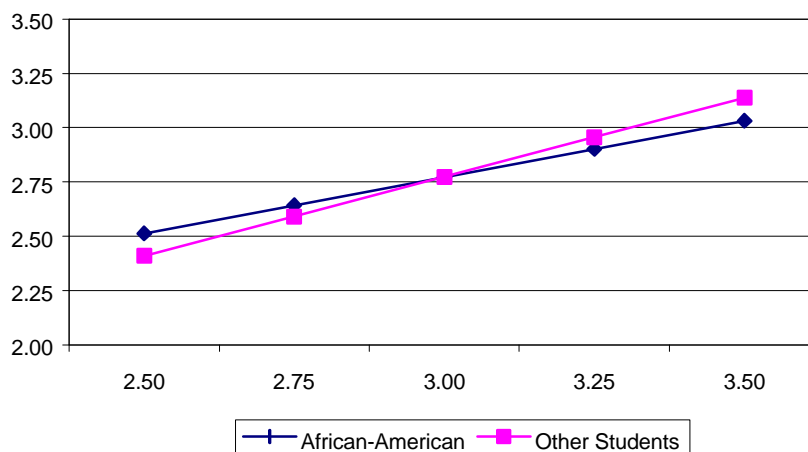
**Figure 1: Predicted GPA by ACT**



**Figure 2: Predicted GPA by High School Class Percentile Rank**



**Figure 3: Predicted GPA from High School Core GPA**



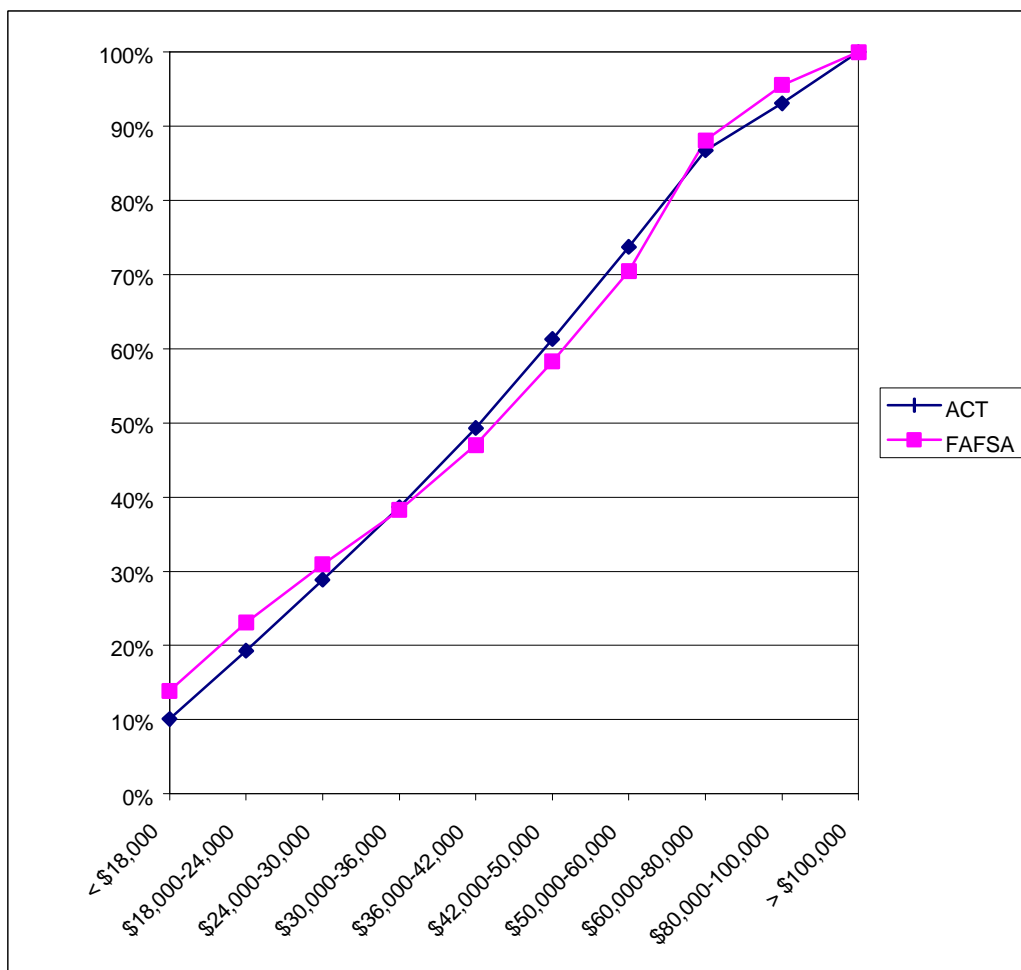


**Table 2: Comparison of EMSAS and FAFSA Records**

| Parental Income  | ACT Composite Profile |     |        |       | FAFSA        |     |       |      |
|------------------|-----------------------|-----|--------|-------|--------------|-----|-------|------|
|                  | Income                | #   | %      | Cum % | #            | %   | Cum % | %    |
| < \$18,000       | 3,241                 | 10% | 3,241  | 10%   | 1,237        | 14% | 1,237 | 14%  |
| \$18,000-24,000  | 2,940                 | 9%  | 6,181  | 19%   | 821          | 9%  | 2,058 | 23%  |
| \$24,000-30,000  | 3,069                 | 10% | 9,250  | 29%   | 701          | 8%  | 2,759 | 31%  |
| \$30,000-36,000  | 3,140                 | 10% | 12,390 | 39%   | 651          | 7%  | 3,410 | 38%  |
| \$36,000-42,000  | 3,412                 | 11% | 15,802 | 49%   | 783          | 9%  | 4,193 | 47%  |
| \$42,000-50,000  | 3,843                 | 12% | 19,645 | 61%   | 1,001        | 11% | 5,194 | 58%  |
| \$50,000-60,000  | 3,984                 | 12% | 23,629 | 74%   | 1,085        | 12% | 6,279 | 70%  |
| \$60,000-80,000  | 4,165                 | 13% | 27,794 | 87%   | 1,575        | 18% | 7,854 | 88%  |
| \$80,000-100,000 | 2,033                 | 6%  | 29,827 | 93%   | 664          | 7%  | 8,518 | 96%  |
| > \$100,000      | 2,217                 | 7%  | 32,044 | 100%  | 396          | 4%  | 8,914 | 100% |
|                  | <u>32,044</u>         |     |        |       | <u>8,914</u> |     |       |      |

ACT High School Profile is the state composite report for Missouri based on the high school graduating class of 1997.

FAFSA was computed from the FAFSA records of Missouri students enrolling in Missouri public postsecondary institutions.



**Table 2: (continued)**

| Variable   | Levels | EMSAS, ACT,<br>FAFSA | EMSAS      | EMSAS<br>ACT | EMSAS<br>FAFSA | Sum    |
|------------|--------|----------------------|------------|--------------|----------------|--------|
| <b>Sex</b> | Female | 5,023                | 1,416      | 4,343        | 456            | 11,238 |
|            | Male   | 3,733                | 1,519      | 3,776        | 304            | 9,332  |
|            |        | 8,756                | 2,935      | 8,119        | 760            | 20,570 |
|            |        | Any<br>EMSAS         | Any<br>ACT | Any<br>FAFSA |                |        |
|            | Female | 55%                  | 56%        | 58%          |                |        |

**Table 3: Proportion of FAFSA Submissions**

|            | Campus                          | Freshman Enrollment | Submitted FAFSA # | %     | Resident Cost |
|------------|---------------------------------|---------------------|-------------------|-------|---------------|
| 4-Year     | UM-Rolla                        | 478                 | 337               | 71%   | \$4,373       |
|            | Truman State                    | 1,185               | 708               | 60%   | \$3,274       |
|            | UM-Columbia                     | 2,789               | 1,711             | 61%   | \$4,280       |
|            | UM-Kansas City                  | 429                 | 245               | 57%   | \$4,273       |
|            | SMSU                            | 2,322               | 1,317             | 57%   | \$3,060       |
|            | CMSU                            | 1,170               | 673               | 58%   | \$2,640       |
|            | SEMO                            | 909                 | 493               | 54%   | \$3,000       |
|            | UM-St Louis                     | 588                 | 324               | 55%   | \$4,323       |
|            | NWMSU                           | 807                 | 474               | 59%   | \$2,535       |
|            | Southern                        | 505                 | 224               | 44%   | \$2,256       |
|            | Western                         | 827                 | 441               | 53%   | \$2,534       |
|            | Harris-Stowe                    | 130                 | 60                | 46%   | \$2,370       |
|            | Lincoln                         | 254                 | 125               | 49%   | \$2,204       |
|            | 4-Year Sum                      |                     | 12,393            | 7,132 | 58%           |
| 2-Year     | East Central                    | 329                 | 113               | 34%   | \$1,305       |
|            | Jefferson                       | 818                 | 169               | 21%   | \$1,320       |
|            | Longview                        | 943                 | 198               | 21%   | \$1,410       |
|            | Maplewoods                      | 384                 | 85                | 22%   | \$1,410       |
|            | Mineral Area                    | 265                 | 105               | 40%   | \$1,140       |
|            | Moberly                         | 243                 | 111               | 46%   | \$1,115       |
|            | North Central                   | 213                 | 113               | 53%   | \$1,275       |
|            | Ozark                           | 533                 | 152               | 29%   | \$1,324       |
|            | Penn Valley                     | 158                 | 43                | 27%   | \$1,410       |
|            | St Charles                      | 763                 | 180               | 24%   | \$1,440       |
|            | St Louis CC - Forest Park       | 340                 | 130               | 38%   | \$1,260       |
|            | St Louis CC - Florissant Valley | 821                 | 226               | 28%   | \$1,260       |
|            | St Louis CC - Meramac           | 1,459               | 324               | 22%   | \$1,260       |
|            | State Fair                      | 346                 | 141               | 41%   | \$1,230       |
|            | Three-Rivers                    | 396                 | 195               | 49%   | \$1,110       |
|            | West Plains                     | 166                 | 99                | 60%   |               |
| 2-Year Sum |                                 | 8,177               | 2,384             | 29%   | \$1,292       |
| Total      |                                 | 20,570              | 9,516             | 46%   |               |

Figures include only traditionally aged freshmen from Missouri high schools. Costs are 97-98 annual costs for Missouri resident or in-district full-time students and do not include room & board. Averages are unweighted.

**Table 4: Selectivity of Public Four-Year Institutions as Defined by Sum of High School Percentile Rank in Graduating Class and ACT Composite Score Percentile**

| Campus         | 10th Percentile | Median | Average | n     | N     | %    |
|----------------|-----------------|--------|---------|-------|-------|------|
| UM-Rolla       | 140             | 180    | 174     | 453   | 478   | 95%  |
| Truman State   | 140             | 170    | 168     | 1,182 | 1,185 | 100% |
| UM-Columbia    | 121             | 164    | 160     | 2,717 | 2,789 | 97%  |
| UM-Kansas City | 113             | 162    | 157     | 407   | 429   | 95%  |
| SMSU           | 90              | 141    | 140     | 2,285 | 2,322 |      |

**Table 5: Parental Education**

|        | Campus         | n     | Frequency  |                                  |                                      | Percentage   |                                  |                                      |
|--------|----------------|-------|--|----------------------------------|--------------------------------------|--|----------------------------------|--------------------------------------|
|        |                |       | 1 or Both Parents<br>Graduated H.S.<br>But Neither College | 1 Parent<br>Graduated<br>College | Both Parents<br>Graduated<br>College | 1 or Both Parents<br>Graduated H.S.<br>But Neither College | 1 Parent<br>Graduated<br>College | Both Parents<br>Graduated<br>College |
| 4-Year | UM-Rolla       | 336   | 110  | 109                              | 117                                  | 33%  | 32%                              | 35%                                  |
|        | Truman State   | 700   | 188  | 208                              | 304                                  | 27%  | 30%                              | 43%                                  |
|        | UM-Columbia    | 1,689 | 431  | 517                              | 741                                  | 26%  | 31%                              | 44%                                  |
|        | UM-Kansas City | 240   | 63   | 70                               | 107                                  | 26%  | 29%                              | 45%                                  |
|        | SMSU           | 1,294 | 519  | 391                              | 384                                  | 40%  | 30%                              | 30%                                  |
|        | CMSU           | 658   | 288  | 220                              | 150                                  | 44%  | 33%                              | 23%                                  |
|        | SEMO           | 484   | 232  | 141                              | 111                                  | 48%  | 29%                              | 23%                                  |
|        | UM-St Louis    | 321   | 139  | 98                               | 84                                   | 43%  | 31%                              | 26%                                  |
|        | NWMSU          | 463   | 216  | 135                              | 112                                  | 47%  | 29%                              | 24%                                  |
|        | Southern       | 224   | 123  | 58                               | 43                                   | 55%  | 26%                              | 19%                                  |
|        | Western        | 428   | 210  | 123                              | 95                                   | 49%  | 29%                              | 22%                                  |
|        | Harris-Stowe   | 59    | 31   | 22                               | 6                                    | 53%  | 37%                              | 10%                                  |
|        | Lincoln        | 120   | 65   | 35                               | 20                                   |  |                                  |                                      |

**Table 6: Students Completed Missouri's High School Core**

|            | Campus                          | n      | Frequency |     | Percentage |     |
|------------|---------------------------------|--------|-----------|-----|------------|-----|
|            |                                 |        | Yes       | No  | Yes        | No  |
| 4-Year     | UM-Rolla                        | 477    | 470       | 7   | 99%        | 1%  |
|            | Truman State                    | 1,185  | 1,185     | 0   | 100%       | 0%  |
|            | UM-Columbia                     | 2,785  | 2,739     | 46  | 98%        | 2%  |
|            | UM-Kansas City                  | 426    | 410       | 16  | 96%        | 4%  |
|            | SMSU                            | 2,233  | 1,927     | 306 | 86%        | 14% |
|            | CMSU                            | 1,167  | 1,080     | 87  | 93%        | 7%  |
|            | SEMO                            | 895    | 873       | 22  | 98%        | 2%  |
|            | UM-St Louis                     | 580    | 534       | 46  | 92%        | 8%  |
|            | NWMSU                           | 807    | 746       | 61  | 92%        | 8%  |
|            | Southern                        | 497    | 396       | 101 | 80%        | 20% |
|            | Western                         | 811    | 653       | 158 | 81%        | 19% |
|            | Harris-Stowe                    | 111    | 78        | 33  | 70%        | 30% |
|            | Lincoln                         | 217    | 121       | 96  | 56%        | 44% |
|            | 4-Year Sum                      | 12,191 | 11,212    | 979 | 92%        | 8%  |
| 2-Year     | East Central                    | 200    | 96        | 104 | 48%        | 52% |
|            | Jefferson                       | 433    | 203       | 230 | 47%        | 53% |
|            | Longview                        | 563    | 252       | 311 | 45%        | 55% |
|            | Maplewoods                      | 182    | 83        | 99  | 46%        | 54% |
|            | Mineral Area                    | 192    | 80        | 112 | 42%        | 58% |
|            | Moberly                         | 180    | 90        | 90  | 50%        | 50% |
|            | North Central                   | 167    | 89        | 78  | 53%        | 47% |
|            | Ozark                           | 307    | 125       | 182 | 41%        | 59% |
|            | Penn Valley                     | 76     | 47        | 29  | 62%        | 38% |
|            | St Charles                      | 539    | 292       | 247 | 54%        | 46% |
|            | St Louis CC - Forest Park       | 154    | 85        | 69  | 55%        | 45% |
|            | St Louis CC - Florrisant Valley | 457    | 282       | 175 | 62%        | 38% |
|            | St Louis CC - Meramac           | 802    | 502       | 300 | 63%        | 37% |
|            | State Fair                      | 257    | 67        | 190 | 26%        | 74% |
|            | Three-Rivers                    | 270    | 97        | 173 | 36%        | 64% |
|            | West Plains                     | 136    | 60        | 76  | 44%        | 56% |
| 2-Year Sum | 4,915                           | 2,450  | 2,465     | 50% | 50%        |     |
| Total      | 17,106                          | 13,662 | 3,444     | 80% | 20%        |     |

Figures include only traditionally aged freshmen from Missouri high schools.

**Table 7: Wealth of High School Student Body (Missouri Public High Schools)**

|        | Campus         | n     | Frequency       |                |                   |                    | Percentage      |                |                   |                    |
|--------|----------------|-------|-----------------|----------------|-------------------|--------------------|-----------------|----------------|-------------------|--------------------|
|        |                |       | Poorest Quarter | Poorer Quarter | Wealthier Quarter | Wealthiest Quarter | Poorest Quarter | Poorer Quarter | Wealthier Quarter | Wealthiest Quarter |
| 4-Year | UM-Rolla       | 398   | 57              | 122            | 93                | 126                | 14%             | 31%            | 23%               | 32%                |
|        | Truman State   | 875   | 57              | 167            | 324               | 327                | 7%              | 19%            | 37%               | 37%                |
|        | UM-Columbia    | 2,344 | 257             | 515            | 821               | 751                | 11%             | 22%            | 35%               | 32%                |
|        | UM-Kansas City | 365   | 58              | 62             | 75                | 170                | 16%             | 17%            | 21%               | 47%                |
|        | SMSU           | 2,084 | 296             | 662            | 545               | 581                | 14%             | 32%            | 26%               | 28%                |
|        | CMSU           | 1,063 | 139             | 361            | 174               | 389                | 13%             |                |                   |                    |

**Table 8: Wealth of Parents (Parental Adjusted Gross Income)**

|        | Campus         | n     | Frequency          |                   |                   |                    | Percentage         |                   |                   |                    |
|--------|----------------|-------|--------------------|-------------------|-------------------|--------------------|--------------------|-------------------|-------------------|--------------------|
|        |                |       | Less than<br>\$25K | \$25K to<br>\$44K | \$44K to<br>\$66K | \$66K and<br>Above | Less than<br>\$25K | \$25K to<br>\$44K | \$44K to<br>\$66K | \$66K and<br>Above |
| 4-Year | UM-Rolla       | 327   | 54                 | 83                | 94                | 96                 | 17%                | 25%               | 29%               | 29%                |
|        | Truman State   | 697   | 86                 | 127               | 190               | 294                | 12%                | 18%               | 27%               | 42%                |
|        | UM-Columbia    | 1,669 | 272                | 351               | 431               | 615                | 16%                | 21%               | 26%               | 37%                |
|        | UM-Kansas City | 233   | 35                 | 61                | 53                | 84                 | 15%                | 26%               | 23%               | 36%                |
|        | SMSU           | 1,260 | 299                | 311               | 307               | 343                | 24%                | 25%               | 24%               | 27%                |
|        | CMSU           | 639   | 157                | 144               | 200               | 138                | 25%                | 23%               | 31%               | 22%                |
|        | SEMO           | 468   | 112                | 112               | 141               | 103                | 24%                | 24%               | 30%               | 22%                |
|        | UM-St Louis    | 304   | 79                 | 69                | 73                | 83                 | 26%                | 23%               | 24%               | 27%                |
|        | NWMSU          | 446   | 117                | 124               | 114               | 91                 | 26%                | 28%               | 26%               | 20%                |
|        | Southern       | 209   | 69                 | 76                | 52                | 12                 | 33%                | 36%               | 25%               | 6%                 |
|        | Western        | 399   | 120                | 106               | 111               | 62                 | 30%                | 27%               | 28%               | 16%                |
|        | Harris-Stowe   | 47    | 24                 | 13                | 6                 | 4                  | 51%                | 28%               | 13%               | 9%                 |
|        | Lincoln        | 105   | 31                 | 35                | 20                | 19                 | 30%                | 33%               | 19%               | 18%                |
|        | 4-Year Sum     | 6,803 | 1,455              | 1,612             | 1,792             | 1,944              | 21%                | 24%               | 26%               | 29%                |



**Table 9: Sex of Students**

|        | Campus         | n      | Frequency |       | Percentage |      |
|--------|----------------|--------|-----------|-------|------------|------|
|        |                |        | Female    | Male  | Female     | Male |
| 4-Year | UM-Rolla       | 478    | 113       | 365   | 24%        | 76%  |
|        | Truman State   | 1,185  | 714       | 471   | 60%        | 40%  |
|        | UM-Columbia    | 2,789  | 1,496     | 1,293 | 54%        | 46%  |
|        | UM-Kansas City | 429    | 232       | 197   | 54%        | 46%  |
|        | SMSU           | 2,322  | 1,337     | 985   | 58%        | 42%  |
|        | CMSU           | 1,170  | 642       | 528   | 55%        | 45%  |
|        | SEMO           | 909    | 568       | 341   | 62%        | 38%  |
|        | UM-St Louis    | 588    | 317       | 271   | 54%        | 46%  |
|        | NWMSU          | 807    | 466       | 341   | 58%        | 42%  |
|        | Southern       | 505    | 280       | 225   | 55%        | 45%  |
|        | Western        | 827    | 477       | 350   | 58%        | 42%  |
|        | Harris-Stowe   | 130    | 96        | 34    | 74%        | 26%  |
|        | Lincoln        | 254    | 144       | 110   | 57%        | 43%  |
|        | 4-Year Sum     | 12,393 | 6,882     | 5,511 | 56%        | 44%  |

**Table 10: Proportion African-American**

| Campus | African-Americans |
|--------|-------------------|
|--------|-------------------|



**Table 12: Education and Income**

| Campus                           |                                     | Parental Income (Adjusted Gross) |          |          |            | Sum   | %   |
|----------------------------------|-------------------------------------|----------------------------------|----------|----------|------------|-------|-----|
|                                  |                                     | <\$25K                           | \$25-44K | \$44-66K | \$66K & Up |       |     |
| Freshmen<br>at 2- and 4-<br>Year | Both parents have college degrees   | 358                              | 531      | 686      | 1070       | 2,645 | 30% |
|                                  | Row %                               | 14%                              | 20%      | 26%      | 40%        |       |     |
|                                  | Column %                            | 17%                              | 24%      | 31%      | 48%        |       |     |
|                                  | One parent has a college degree     | 630                              | 687      | 691      | 684        | 2,692 | 31% |
|                                  | Row %                               | 23%                              | 26%      | 26%      | 25%        |       |     |
|                                  | Column %                            | 29%                              | 32%      | 31%      | 31%        |       |     |
|                                  | Neither parent has a college degree | 1,158                            | 960      | 837      | 472        | 3,427 | 39% |
|                                  | Row %                               | 34%                              | 28%      | 24%      | 14%        |       |     |
|                                  | Column %                            | 54%                              | 44%      | 38%      | 21%        |       |     |
|                                  |                                     | 2,146                            | 2,178    | 2,214    | 2,226      | 8,764 |     |
|                                  |                                     | 24%                              | 25%      | 25%      | 25%        |       |     |
| 4-Year<br>Only                   | Both parents have college degrees   | 259                              | 433      | 583      | 956        | 2,231 | 33% |
|                                  | Row %                               | 12%                              | 19%      | 26%      | 43%        |       |     |
|                                  | Column %                            | 18%                              | 27%      | 33%      | 50%        |       |     |
|                                  | One parent has a college degree     | 436                              | 484      | 557      | 579        | 2,056 | 31% |
|                                  | Row %                               | 21%                              | 24%      | 27%      | 28%        |       |     |
|                                  | Column %                            | 31%                              | 30%      | 32%      | 30%        |       |     |
|                                  | Neither parent has a college degree | 730                              | 675      | 627      | 390        | 2,422 | 36% |
|                                  | Row %                               | 30%                              | 28%      | 26%      | 16%        |       |     |
|                                  | Column %                            | 51%                              | 42%      | 35%      | 20%        |       |     |
|                                  |                                     | 1,425                            | 1,592    | 1,767    | 1,925      | 6,709 |     |
|                                  |                                     | 21%                              | 24%      | 26%      | 29%        |       |     |
| 2-Year<br>Only                   | Both parents have college degrees   | 99                               | 98       | 103      | 114        | 414   | 20% |
|                                  | Row %                               | 24%                              | 24%      | 25%      | 28%        |       |     |
|                                  | Column %                            | 14%                              | 17%      | 23%      | 38%        |       |     |
|                                  | One parent has a college degree     | 194                              | 203      | 134      | 105        | 636   | 31% |
|                                  | Row %                               | 31%                              | 32%      | 21%      | 17%        |       |     |
|                                  | Column %                            | 27%                              | 35%      | 30%      | 35%        |       |     |
|                                  | Neither parent has a college degree | 428                              | 285      | 210      | 82         | 1,005 | 49% |
|                                  | Row %                               | 43%                              | 28%      | 21%      | 8%         |       |     |
|                                  | Column %                            | 59%                              | 49%      | 47%      | 27%        |       |     |
|                                  |                                     | 721                              | 586      | 447      | 301        | 2,055 |     |
|                                  |                                     | 35%                              | 29%      | 22%      | 15%        |       |     |

**Table 13: Education and Wealth of H.S. Student Body**

| Campus                           |                                     | Quartile Based on % of Student Body on Free- or Reduced-Price Lunches |                 |                    |                     | Sum   | %   |
|----------------------------------|-------------------------------------|---|-----------------|--------------------|---------------------|-------|-----|
|                                  |                                     | Poorest Quartile  | Poorer Quartile | Wealthier Quartile | Wealthiest Quartile |       |     |
| Freshmen<br>at 2- and 4-<br>Year | Both parents have college degrees   | 275   | 540             | 707                | 721                 | 2,243 | 28% |
|                                  | Row %                               | 12%   | 24%             | 32%                | 32%                 |       |     |
|                                  | Column %                            | 18%   | 25%             | 33%                | 32%                 |       |     |
|                                  | One parent has a college degree     | 470   | 639             | 617                | 727                 | 2,453 | 30% |
|                                  | Row %                               | 19%   | 26%             | 25%                | 30%                 |       |     |
|                                  | Column %                            | 30%   | 30%             | 29%                | 33%                 |       |     |
|                                  | Neither parent has a college degree | 807   | 960             | 817                | 784                 | 3,368 | 42% |
|                                  | Row %                               | 24%   | 29%             | 24%                | 23%                 |       |     |
|                                  | Column %                            | 52%   | 45%             | 38%                | 35%                 |       |     |
|                                  |                                     | 1,552   | 2,139           | 2,141              | 2,232               | 8,064 |     |
|                                  |                                     | 19%   | 27%             | 27%                | 28%                 |       |     |
| 4-Year<br>Only                   | Both parents have college degrees   | 208   | 457             | 594                | 603                 | 1,862 | 31% |
|                                  | Row %                               | 11%   | 25%             | 32%                | 32%                 |       |     |
|                                  | Column %                            | 20%   | 28%             | 36%                | 35%                 |       |     |
|                                  | One parent has a college degree     | 299   | 493             | 470                | 548                 | 1,810 | 30% |
|                                  | Row %                               | 17%   | 27%             | 26%                | 30%                 |       |     |
|                                  | Column %                            | 29%   | 30%             | 29%                | 32%                 |       |     |

**Table 14: Parental Wealth and Wealth of H.S. Student Body**

**Table 15: African-American Distribution Comparisons**

| Campus                             | African-Americans |     | All Others |     | All   |     |
|------------------------------------|-------------------|-----|------------|-----|-------|-----|
|                                    | n                 | %   | n          | %   | n     | %   |
| Parental Adj. Gross Income         |                   |     |            |     |       |     |
| Parental AGI >\$66K                | 95                | 15% | 2,160      | 26% | 2,255 | 25% |
| Parental AGI \$44-\$66K            | 84                | 13% | 2,162      | 26% | 2,246 | 25% |
| Parental AGI \$25-\$44K            | 167               | 26% | 2,044      | 25% | 2,211 | 25% |
| Parental AGI < \$25K               | 306               | 47% | 1,896      | 23% | 2,202 | 25% |
| Parental Education Level           |                   |     |            |     |       |     |
| Both parents have college degree   | 169               | 21% | 2,542      | 30% | 2,711 | 29% |
| Only one parent has college degree | 270               | 34% | 2,577      | 30% | 2,847 | 31% |
| Neither parent has college degree  | 363               | 45% | 3,403      | 40% | 3,766 | 40% |
| High School Student Body Wealth    |                   |     |            |     |       |     |
| Wealthiest Quartile                | 217               | 15% | 5,451      | 33% | 5,668 | 32% |
| Wealthier Quartile                 | 397               | 28% | 4,747      | 29% | 5,144 | 29% |
| Poorer Quartile                    | 302               | 21% | 3,951      | 24% | 4,253 | 24% |
| Poorest Quartile                   | 492               | 35% | 2,327      | 14% | 2,819 | 16% |

**Table 16a: African-American Percentage Enrollment Using Various SES Adjustments -- TARGET RATE=6.1%**

**MOST SELECTIVE TIER INSTITUTIONS**

|  |    |      |      |      |      |      |
|--|----|------|------|------|------|------|
| High School Student Body Wealth Advantage if in Poorest Quartile | 75 | 4.0% |      |      |      | 5.2% |
|  | 50 | 3.7% |      |      | 4.6% |      |
|  | 25 | 3.1% |      | 3.7% |      |      |
|  | 10 | 2.8% | 3.0% |      |      |      |
|  | 0  | 2.7% | 2.9% | 3.3% | 3.8% | 4.6% |
|  |    | 0    | 10   | 25   | 50   | 75   |

If Parent's Adjusted Gross Income < \$25K

**MORE SELECTIVE TIER INSTITUTIONS**

|  |    |      |      |      |      |      |
|--|----|------|------|------|------|------|
| High School Student Body Wealth Advantage if in Poorest Quartile | 75 | 4.6% |      |      |      | 5.4% |
|  | 50 | 4.5% |      |      | 5.2% |      |
|  | 25 | 4.3% |      | 4.8% |      |      |
|  | 10 | 4.1% | 4.2% |      |      |      |
|  | 0  | 3.9% | 4.1% | 4.4% | 4.9% | 5.1% |
|  |    | 0    | 10   | 25   | 50   | 75   |

If Parent's Adjusted Gross Income < \$25K

**MORE OPEN TIER INSTITUTIONS**

|  |    |      |      |      |      |      |
|--|----|------|------|------|------|------|
| High School Student Body Wealth Advantage if in Poorest Quartile | 75 | 5.2% |      |      |      | 5.7% |
|  | 50 | 5.2% |      |      | 5.6% |      |
|  | 25 | 5.1% |      | 5.4% |      |      |
|  | 10 | 5.1% | 5.2% |      |      |      |
|  | 0  | 5.0% | 5.2% | 5.3% | 5.5% | 5.7% |
|  |    | 0    | 10   | 25   | 50   | 75   |

If Parent's Adjusted Gross Income < \$25K

**MOST ACCESSIBLE TIER INSTITUTIONS**

|  |    |      |      |      |      |      |
|--|----|------|------|------|------|------|
| High School Student Body Wealth Advantage if in Poorest Quartile | 75 | 5.7% |      |      |      | 5.9% |
|  | 50 | 5.7% |      |      | 5.9% |      |
|  | 25 | 5.7% |      | 5.8% |      |      |
|  | 10 | 5.7% | 5.7% |      |      |      |
|  | 0  | 5.6% | 5.7% | 5.8% | 5.9% | 5.9% |
|  |    | 0    | 10   | 25   | 50   | 75   |

If Parent's Adjusted Gross Income < \$25K

Note: If African-American group are given 41 points then the tier 1 distribution is 6.1%, like the base.



**Table 16b: Lowest Parental Adjusted Gross Income Quartile Percentage Enrollment Using Various SES Adjustments -- TARGET RATE=22.9%**

**MOST SELECTIVE TIER INSTITUTIONS**

|                                  |    |       |       |       |       |
|----------------------------------|----|-------|-------|-------|-------|
|                                  | 75 | 21.2% |       |       | 30.7% |
| High School Student Body Wealth  | 50 | 20.4% |       | 28.6% |       |
| Advantage if in Poorest Quartile | 25 | 19.3% | 25.0% |       |       |
|                                  | 10 | 18.8% | 21.2% |       |       |
|                                  | 0  | 18.2% | 20.8% | 24.1% | 28.2% |
|                                  |    |       |       |       | 31.2% |

**Table 16c: Poorest High School Quartile Percentage Enrollment Using Various**

**Table 17: Selectivity of Public Four-Year Institutions as Defined by High School Percentile Rank in Graduating Class**

| Campus         | 10th Percentile | Median | Average | n      | N      | %    |
|----------------|-----------------|--------|---------|--------|--------|------|
| UM-Rolla       | 62              | 88     | 84      | 457    | 478    | 96%  |
| Truman State   | 60              | 80     | 79      | 1,183  | 1,185  | 100% |
| UM-Columbia    | 50              | 82     | 78      | 2,724  | 2,789  | 98%  |
| UM-Kansas City | 53              | 83     | 79      | 408    | 429    | 95%  |
| SMSU           | 40              | 73     | 70      | 2,287  | 2,322  | 98%  |
| CMSU           | 40              | 72     | 69      | 1,158  | 1,170  | 99%  |
| NWMSU          | 36              | 70     | 67      | 798    | 807    | 99%  |
| SEMO           | 32              | 68     | 65      | 897    | 909    | 99%  |
| UM-St Louis    | 32              | 67     | 65      | 552    | 588    | 94%  |
| Southern       | 30              | 64     | 63      | 470    | 505    | 93%  |
| Western        | 20              | 60     | 58      | 743    | 827    | 90%  |
| Harris-Stowe   | 17              | 63     | 57      | 125    | 130    | 96%  |
| Lincoln        | 14              | 45     | 46      | 221    | 254    | 87%  |
|                |                 |        |         | 12,023 | 12,393 | 97%  |

**Table 18: African-American Percentage Enrollment Using Various SES Adjustments -- High School Rank Based Tiers (TARGET RATE=6.1%)**

**MOST SELECTIVE TIER INSTITUTIONS**

|   |    |      |      |      |      |
|---|----|------|------|------|------|
| High School Student Body Wealth<br>Advantage if in Poorest Quartile | 50 | 5.1% |      |      | 5.6% |
|   | 25 | 5.0% |      | 5.2% |      |
|   | 10 | 4.8% | 4.9% |      |      |
|   | 0  | 4.7% | 4.9% | 5.1% | 5.6% |
|   |    |      | 0    | 10   | 25   |

If Parent's Adjusted Gross Income < \$25K

**MORE SELECTIVE TIER INSTITUTIONS**

|   |    |      |      |      |      |
|---|----|------|------|------|------|
| High School Student Body Wealth<br>Advantage if in Poorest Quartile | 50 | 5.1% |      |      | 5.7% |
|   | 25 | 5.1% |      | 5.4% |      |
|   | 10 | 5.0% | 5.1% |      |      |
|   | 0  | 4.9% | 5.0% | 5.4% | 5.6% |
|   |    |      | 0    | 10   | 25   |

If Parent's Adjusted Gross Income < \$25K

**MORE OPEN TIER INSTITUTIONS**

|   |    |      |      |      |      |
|---|----|------|------|------|------|
| High School Student Body Wealth<br>Advantage if in Poorest Quartile | 50 | 5.5% |      |      | 5.8% |
|   | 25 | 5.5% |      | 5.8% |      |
|   | 10 | 5.5% | 5.6% |      |      |
|   | 0  | 5.4% | 5.6% | 5.8% | 5.8% |
|   |    |      | 0    | 10   | 25   |

If Parent's Adjusted Gross Income < \$25K

**MOST ACCESSIBLE TIER INSTITUTIONS**

|   |    |      |      |      |      |
|---|----|------|------|------|------|
| High School Student Body Wealth<br>Advantage if in Poorest Quartile | 50 | 5.9% |      |      | 6.0% |
|   | 25 | 5.9% |      | 6.0% |      |
|   | 10 | 5.9% | 6.0% |      |      |
|   | 0  | 5.9% | 6.0% | 6.0% | 6.0% |
|   |    |      | 0    | 10   | 25   |

If Parent's Adjusted Gross Income < \$25K

Note: If African-American group are given 41 points then the tier 1 distribution is 6.1%, like the base.