

**PROMOTING INEQUALITY IN HIGHER EDUCATION:
AN ANALYSIS OF THE EFFECTIVENESS OF STATE-
SPONSORED MERIT-BASED FINANCIAL AID
PROGRAMS ON LOW-INCOME AND MINORITY
STUDENTS**

by

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A THESIS

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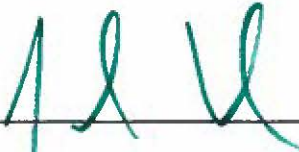
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An Abstract of the Thesis of

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Professor Joel Sneed

Education policy experts and educational institutions alike are cognizant of the reality that low-income students are less likely to attend college than students from middle and upper income families. For those who do make it to college, socioeconomically disadvantaged students are again less likely to graduate from college with a degree than their higher income peers. In order to address the issue of college accessibility as well as the high burden of college tuition that has been placed on students and their families, many states have implemented merit-based financial aid programs. These programs are designed to expand access to higher education for students who would not otherwise be able to afford it. This thesis will examine three of these financial aid programs in depth: the Georgia HOPE Scholarship and Grant Program, the New Mexico Lottery Scholarship Program and the Indiana Twenty-first Century Scholarship Program, and whether they are effective at expanding college accessibility to low-income and minority youths. This thesis will also analyze specific

characteristics of these programs that potentially further exacerbate the divide between socioeconomically disadvantaged students and their higher income counterparts.

Embedded within the analysis are examples of programs that have, to some degree, been successful at getting low-income students to enroll in college, which provide insight into how merit-based financial aid programs could be designed to meet the goal of affording low-income students a fair chance at college.

“As a teacher of very high achieving students, I would certainly be in favor of giving high achieving students grants if the other, more basic, requirement of assuring that the state’s public higher education not be reserved for families with money had been met first. It has not. In these circumstances I believe that the leaders of higher education should strongly object to a policy that uses public funds in a way that intensifies already serious inequality.”

–Gary Orfield

Professor, Harvard Graduate School of Education
Director, The Civil Rights Project at Harvard University

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Chapter 1: The United States of America: The Land of Achievement Gaps

Higher education in the United States was built on the notion that education was the primary engine upon which all citizens could achieve whatever they aspired to. Over several hundred years, education became the principal tool by which youths from all backgrounds could create a prosperous and fulfilling life for themselves. However, over the past few decades, there has been a growing concern over whether disparities exist within our own education pipeline. Education was once considered the great equalizer in American society. Today a student's background—whether they are born into a rich or poor family—is one of the biggest predictors of educational success. Achievement gaps between wealthy and low-income students have marred our schools and universities and have been at the forefront of many debates about education reform.

Low-income students face many hurdles that extend beyond financial problems. Many low-income youths are first-generation college students, and are less likely to have access to personal resources that will provide them with the knowledge and support needed to select the right college and navigate the complex application process. Research has also shown that low-income youths tend to have lower college aspirations and are less likely to have sufficient access to rigorous coursework such as Honors and Advanced Placement courses in high school.¹ They are also more likely to experience multiple family transitions, change schools frequently and experience the stressors that

¹ Kezar, Adrianna. *Recognizing and Serving Low-Income Students in Higher Education: An Examination of Institutional Policies, Practices and Culture*. New York, NY: Routledge, 2011. Print.

come with living in poverty and struggling to meet basic everyday needs. As a result, upper-income students often make it much farther in the higher education pipeline than needy students, even with comparable academic merits and abilities. This makes it more difficult for children from low-income families to escape poverty as adults and gain economic mobility.

In 2002, the National Center for Education Statistics began an Educational Longitudinal Study (ELS) where researchers tracked 15,000 U.S. high school sophomores from across all socioeconomic spectrums. At the start of the study, 87% of students who had parents from the highest level of income and education planned on going to college and 58% of those whose parents had the lowest income and education level aspired to go to college. Researchers conducted three follow-ups in 2004, 2006 and 2012, tracking students throughout their secondary and postsecondary years. The table below reports college degree attainment rates from the third follow-up of the ELS data collection. For simplicity, the second and third quartiles are collapsed into a “middle category”.

Attainment rates of high school students by socioeconomic status

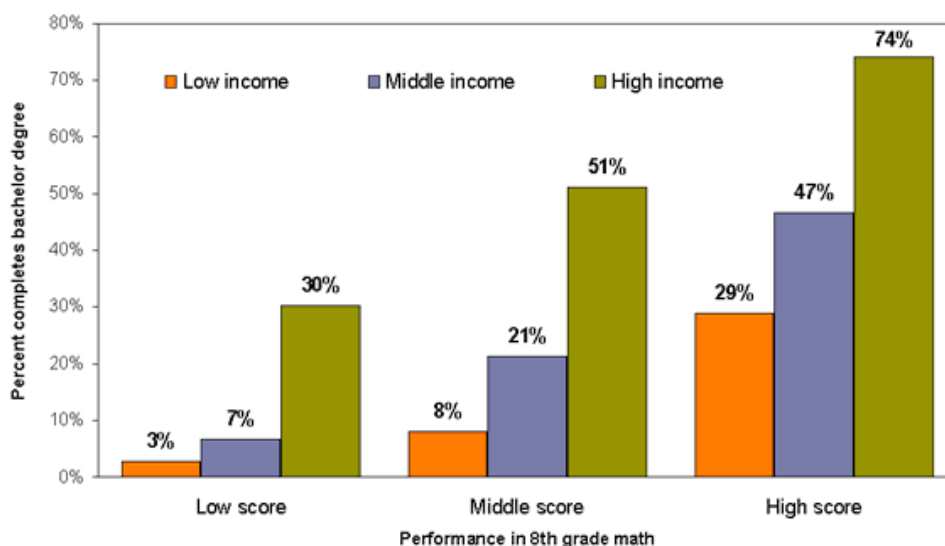
	Lowest Income <\$17,917	Middle Income \$17,917 - \$53,162	Highest Income >\$53,162
Highest Education Level Obtained			
High School or below	29.0	15.1	3.7
Some college, no credential	35.9	35.1	23.8
Undergraduate certificate	12.6	11.2	5.8
Associate degree	8.1	9.8	6.7
Bachelor's degree or above	14.3	29.0	60.0

Source: Kelly, Andrew P. "Education for Upward Mobility: Big Payoff, Low Probability." (2014): 22. <http://www.pellinstitute.org/downloads/publications---Indicators_of_Higher_Education_Equity_in_the_US_45_Year_Trend_Report.pdf>.

The table depicts that a mere 14.3% of the total number of students from the lowest income quartile earned a Bachelor's degree or higher 8 years after graduating from high school. Around two-thirds of these students received no college credential. 12.6% of students earned an undergraduate certificate and 8.1% earned an Associate's degree, bringing college attainment rates (as measured by degrees and certificates obtained) among students from the lowest income quartile to 35% (just over one-third). In contrast, 60.0% of students in the highest income quartile obtained a Bachelor's degree or higher and 72.5% of high - income students received some type of degree or credential. Nearly all students from this cohort succeeded in at least attaining some college with only 3.7% remaining in the "High school or below category"

While low-income students on average perform worse academically than students of higher socioeconomic status, even high achieving low-income students are still less likely than their wealthy peers to complete college. In one longitudinal study conducted by the Department of Education, 8th grade students were tracked over 12 years through high school and college into the labor market. The purpose of the study was to examine how many of these students were able to complete college with a Bachelor's degree. Students were grouped into 3 sections based on their performance on an 8th grade mathematics assessment. They were also grouped into quartiles based on their socioeconomic status, as depicted in the following graph.

Figure A. Educational outcomes and socioeconomic status



Source: Fox, Connolly, and Snyder 2005

The Low Score represents students who scored in the bottom 25% of the weighted distribution, the Middle Score represents students who scored in the middle quartiles and the High Score represents students who scored in the top 25% of the weighted distribution.

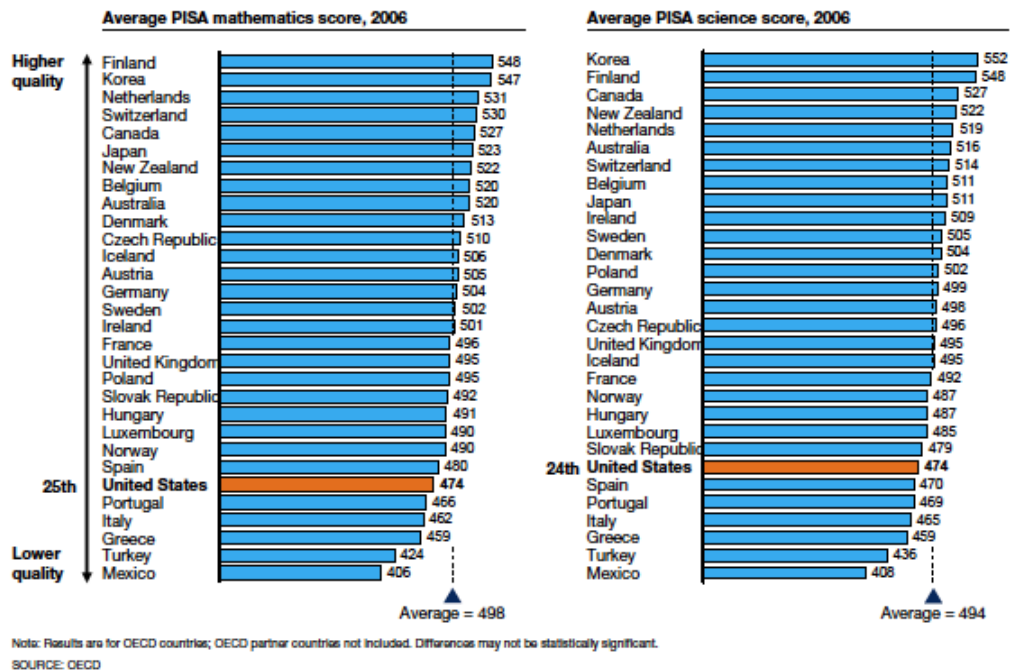
College attainment is noticeably determined by socioeconomic status within each performance category. For “Low Scorers”, the highest income students were 10 times more likely than the lowest income students to complete college for receiving relatively the same score. Similar findings are shown for both “Middle Scorers” and “High Scorers”. Perhaps the most jarring discovery concluded from this study was that low-income students who scored in the top 25% were slightly less likely to obtain a Bachelor’s degree (29%) than students who scored in the bottom 25% but came from a high income family (30%). This indicates that even if a student is academically gifted, socioeconomic background still prevailed and served as a significant barrier to higher education accessibility.

Sadly, achievement gaps within education have grown steadily in recent years, and low-income households were hit the hardest with the economic recession. According to data from the U.S. Census Bureau, the percentage of low-income high school graduates enrolling in college declined from 56% in 2008 to 46% in 2013, with low-income enrollment rates being more volatile than other income groups.² This is especially troubling given that high school graduation rates have been increasing, meaning that the United States has the potential to see a higher share of its population earn a college degree. These trends in college enrollment and completion are due to a variety of factors. Students from low-income families often receive poor college

² "Where Have All the Low-Income Students Gone?." *Higher Education Today*. 15 Nov. 2015. Web. <<https://higheredtoday.org/2015/11/25/where-have-all-the-low-income-students-gone/>>.

admissions counseling from high schools located in disadvantaged neighborhoods. Many needy students are also intimidated by high sticker prices of colleges and the complex nature of financial aid processes.

Large achievement gaps within our country have made it challenging for the United States to compete on a global scale. The Program for International Student Assessment (PISA) compared international “real-world” (applied) learning and problem-solving abilities among countries for three subjects: math, science and reading. According to PISA, there exists a large international achievement gap between the United States and the rest of the world. Currently, the U.S. lags behind other advanced nations in math and science, ranking 25th of 30 nations in math and 24th of 30 in science in 2006. Instead of being on par with highly developed countries such as Finland, Korea, the Netherlands, Switzerland and Canada, 15-year-olds in the United States are comparable to students in Portugal, Spain and the Slovak Republic in math and science.



Source: The Economic Impact of the Achievement Gap in America's Schools." *McKinsey & Company* (2009): Web. <http://silvergiving.org/system/files/achievement_gap_report.pdf>.

Finland has one of the top educational systems in the world and one's socioeconomic status is much less predictive of a student's academic success than in the United States. This signifies that a low-income student is much more likely to gain economic mobility in Finland than in the U.S, a surprising statistic since the U.S. has a high per capita income (a measurement that is generally positively correlated with higher levels of educational achievement) and devotes more funds towards educational expenditures per student than any other country, indicating that the U.S. is among the least cost-effective in terms of student achievement return for educational dollars.³

³ The Economic Impact of the Achievement Gap in America's Schools." *McKinsey & Company* (2009): Web. <http://silvergiving.org/system/files/achievement_gap_report.pdf>.

Within the United States, the achievement gap by income level among students is one of the most prevalent indicators of inequality in our country. Students who qualify for federally subsidized free or reduced lunches (the primary indicator of poverty in K-12 education) are about two years of learning behind students who are not eligible. Schools that serve a higher proportion of low-income students tend to perform much worse than schools with fewer low-income youths. This income gap appears early on a child's education pipeline and persists over the student's lifetime. This is evident among trends in college enrollment rates across the U.S. Only about 9% of freshmen in the nation's 120 "Tier 1" colleges (which has a total freshmen enrollment of 170,000) are from the bottom half the income level.⁴

The racial achievement gap is equally as predominant in the United States. African American and Latino students on average are about two to three years behind white students of the same age across all measures of the education spectrum from grade point averages to test scores to graduation and college enrollment rates. These gaps also get progressively worse the longer students remain in school. Between fourth and twelfth grade, the disparity increases by 41% for African Americans and 22% for Latinos when compared to white students. In fourth grade, only 2% of African American and Latino students are scoring at the advanced level in reading and math and by twelfth grade this percentage drops to less than 1%. African American and low-

⁴ The Economic Impact of the Achievement Gap in America's Schools." *McKinsey & Company* (2009): Web. <http://silvergiving.org/system/files/achievement_gap_report.pdf>.

income students also tend to lack accessibility to advanced high school curriculums such as Advanced Placement.⁵

The moral issue behind achievement gaps is generally more apparent: Is it ethical that students born into a poor family have decreased chances of graduating from college because they are unable to get a quality education and lack the resources necessary to navigate the education system? However, an issue that is often less discussed is the economic implications of achievement gaps. What price does the average American pay in taxes to send children to K-12 schools, who either drop out before graduation or never enroll in or complete college? Research has indicated that unequal educational opportunities translate into lower earnings, lower employment rates, poorer health and higher rates of incarceration and welfare.⁶ For the nation as a whole, this signifies productivity and human potential that is lost in an increasingly competitive global economy.

McKinsey & Company, a management consulting firm, found that if we had closed the achievement gap between 1983 and 1998, fifteen years after the report, “A Nation at Risk” was released, first alerting the U.S. to the problem of achievement gaps among students, the 2008 GDP would have been \$310 billion to \$525 billion higher (2 to 4 percent of GDP) if we had closed the racial achievement gap, and \$400 billion to

⁵ The Economic Impact of the Achievement Gap in America's Schools." *McKinsey & Company* (2009): Web. <http://silvergiving.org/system/files/achievement_gap_report.pdf>.

⁶ Langham, Barbara A. "The Achievement Gap: What Early Childhood Educators Need to Know." *Childcare Quarterly*. Texas Child Care, 2009. Web. <http://www.childcarequarterly.com/pdf/fall09_gap.pdf>.

\$670 billion higher (3 to 5 percent of GDP) if we had closed the income achievement gap.⁷ Moreover, if the U.S. had raised the performance of its education system to the level of high performing nations such as Finland and Korea, the 2008 U.S. GDP would have been between \$1.3 trillion and \$2.3 trillion higher (9 to 16 percent of GDP). McKinsey & Company have also found that these achievement gaps have a clustering effect which is comparable to economic dead zones where growth is stagnant or non-existent and unemployment rates are high. Areas with low-achieving schools generally produce clusters of individuals who are largely unable to participate in the greater American economy due to a lack of education, insufficient skills to compete in the labor market, high unemployment and high incarceration rates.⁸

Policy makers often argue and pinpoint the exorbitant cost of college tuition as the primary culprit for achievement gaps. Over the past several decades, the price of tuition has increased more than any other good or service in the U.S. economy, even surpassing inflation rates by two to three times. Beginning in the 1970s, many politicians began to criticize higher education as a wasteful way of spending taxpayer money. Ronald Reagan, during his presidential campaign speech stated that the government should not subsidize intellectual curiosity.⁹ As a result, subsidies to colleges and universities as well as aid for college-going students were reduced. Public universities responded to the decrease in state subsidies and the increase in the

⁷ "The Economic Impact of the Achievement Gap in America's Schools." *McKinsey & Company* (2009): Web. <http://silvergiving.org/system/files/achievement_gap_report.pdf>.

⁸ "The Economic Impact of the Achievement Gap in America's Schools." *McKinsey & Company* (2009): Web. <http://silvergiving.org/system/files/achievement_gap_report.pdf>.

⁹ *Ivory Tower*. Dir. Andrew Rossi. Sundance Films, 18 Jan. 2014.

availability of loan financing by raising tuition. Consequently, the burden of the cost of college has shifted from the government to students and families, which has worsened the achievement gap.

The increasing burden and shift of the cost of college from the government to students and their families has caused some states to take action in hopes of increasing college accessibility and completion for underserved students. One method, which has become increasingly popular over the past two decades, is the implementation of state sponsored, merit-based financial-aid programs. Merit-based financial aid programs provide monetary assistance in the form of college tuition and fees for students who wouldn't otherwise be able to afford it and eligibility is based on academic achievement. The next three chapters will provide an in-depth analysis of three of these programs: The Georgia HOPE Scholarship and Grant Program, The New Mexico Lottery Scholarship Program and the Indiana Twenty-first Century Scholars Program, focusing on the effectiveness of such programs at increasing college accessibility for the state's low-income and minority students. The subsequent chapter will cover the Georgia HOPE Scholarship and Grant Program, which is the most well known and controversial of these programs. Georgia HOPE provides a strong basis from which to begin our analyses because it started a trend in financial aid programs with a merit component over the course of the last two decades as well as sparked debate among education officials about whether awarding aid based on merit caused disparate impacts for socioeconomically disadvantaged students. HOPE also provides a valuable example of a program that originated with the intention of serving disadvantaged students, but

through multiple policy changes, became a program that was targeted at Georgia's higher income population. The New Mexico Lottery Scholarship serves as an appropriate springboard off of Georgia HOPE because it addresses the two main criticisms of HOPE: the high merit eligibility standards and the complex application process. It further opens the debate about the value of not only financial assistance for low-income students, but also the value in merit-based aid. Lastly, the Indiana Twenty-first Century Scholars Program is an ideal program to contrast with Georgia HOPE because it represents a shift away from merit-aid programs towards need-based aid. Twenty-first Century Scholars provides policymakers with insight into the influence that financial guarantees as well as channeling aid to encourage college preparation can have on the educational outcome of a student from a low-income family.

Chapter 2: Georgia HOPE and the Popularity of Merit-Based Financial Aid Programs

Perhaps the most well known of these merit-based financial aid programs is the Georgia HOPE (Helping Outstanding Pupils Educationally) Scholarship and Grant Program which was introduced in 1993 as the first ever state-funded lottery scholarship program. Prior to HOPE, most of the existing student aid programs followed the federal pattern of need-based aid. For instance, when signing the Higher Education Act of 1965, President Johnson remarked that the Act meant that a high school senior anywhere could “apply to any college or university in any of the 50 states” and tackled his stated concerns of having a talented student ““turned away [from college] because his family is poor”(qtd in V. Chen, 10)¹⁰ Georgia’s HOPE Program represented a shift away from this premise, yet still held steadfast to the intention of making college more affordable and accessible for the state’s youths.

The Georgia HOPE Program sparked a nationwide trend in academic-based financial aid, inspiring seven other states to implement similar and near identical programs. The 1990s saw a dramatic increase in merit aid and that trend has continued unabated.¹¹ Over a dozen states have adopted a merit-based and lottery funded financial aid program since 1993 and governors in both Alabama and South Carolina were elected in 1998 on the promise to initiate lotteries to fund merit-based financial aid

¹⁰ Wolanin, Thomas E. 2001. *Rhetoric and Reality, Effects and Consequences of the HOPE Scholarship*. Washington: The Institute for Higher Education Policy.

¹¹ McPherson, Michael S., and Morton Owen Schapiro (1998). *The Student Aid Game: Meeting Need and Rewarding Talent in American Higher Education*. Princeton, NJ: Princeton University Press.

programs in their own states.¹² Georgia has also branded the HOPE name, which several state and national programs have adopted. For instance, Clinton's America HOPE Tax Credit Program, established in 1995, borrowed its name from Georgia's HOPE Scholarship, however instead of offering merit-based scholarships, the federal program offers tax credit to offset tuition payments. Today HOPE stands as the largest and most prominent merit-aid program in the country, even surpassing the Federal Pell Grant Program in Georgia.

The Georgia HOPE Scholarship Program was the brainchild of Zell Miller, who was elected the 79th Governor of Georgia in 1990. Miller came from a low-income family and attended the University of Georgia on the GI Bill. His goal with HOPE was to allow young Georgians the opportunity to attend an institution of higher learning the way he had done. Miller's philosophy behind HOPE was "You give something, you get something." High school students must give academic achievement in exchange for funds covering their tuition and fees at any eligible in-state public and private college or university or public technical college in Georgia.¹³

A common argument in Georgia currently and over the past several years since HOPE was introduced is that the HOPE Scholarship was created to retain the "best and brightest" students in the state due to its merit component. As stated on the program's current website, HOPE is "available to Georgia residents who have demonstrated

¹² Selingo, Jeff. "Copying Georgia's HOPE: States that are Weighing Tuition-Scholarship Proposals." *The Chronicle of Higher Education* (April 16, 1999): A37.

¹³ Cornwell, Christopher, et al. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms ." *State Merit-Scholarship Programs and Racial Inequality* 79-98. Web. <https://www.nmefoundation.org/getmedia/78d0251f-ee9d-4410-9645-ac16392be40c/heller-marin-state-merit-scholarship-2004>>.

academic achievement”¹⁴ with no mention of financial need. However, when Miller first introduced the HOPE Scholarship program in the 1992 State of the State Address, he spoke of his concern for Georgia’s low college graduation rates and noted that there were bright students in the state who could not afford to further their education beyond high school due to the rising costs of tuition. Miller stressed the significance of investing in these students not only for the sake of improving the state’s economic future, but also to offer financial assistance for these students to pursue higher education and in turn, create a better life for themselves. Below is an excerpt from Miller’s State of the State Address in 1992.

“The third program proposed for funding will be the most all-inclusive scholarship program to be found in any of the 50 states. [It will be] for bright students who would find it otherwise difficult to go to college. Right now, only 15% of our kids are graduating from college. The national average is 25%. Georgia can do better. Georgia must do better. The most critical long-term need Georgia faces is a better-educated workforce. And just when it is essential to increase the numbers of youngsters who go into college or vocational technical training, the cost of tuition is soaring out of the reach for most of our citizens. For them it is a pocketbook issue of major proportions. With the lottery proceeds, Georgia can provide scholarships by the thousands to deserving students who want to go to college or vocational school. This is Georgia’s opportunity to pioneer the most far-reaching scholarship program in the nation. And not only for those who are minority or who come from lower income families, but also those middle income families who are devastated with the cost of education and training beyond high school. If you want to invest in the economic future of this state, and at the same time do something to help the forgotten average working family, this is it.”¹⁵

¹⁴ "Georgia's HOPE Scholarship Program Overview." *GACollege 411*. Web. <https://secure.gacollege411.org/Financial_Aid_Planning/HOPE_Program/Georgia_s_HOPE_Scholarship_Program_Overview.aspx>.

¹⁵ *Zell Miller on HOPE*. Dir. C-Span. 27 Feb. 2012. Web. <<https://www.youtube.com/watch?v=OP18IHhasrQ>>.

Program Overview

When HOPE first began in 1993, the program distributed two types of awards—a merit based scholarship and a non-merit based grant. To qualify for the scholarship portion of the program, which can be applied at nearly all of the public and private colleges and universities in Georgia, resident high-school students must graduate with an overall B average [3.0 grade point average (GPA) on a 4.0 scale]. The scholarship promised to cover full tuition and some fees with an additional \$100 book allowance. Students attending private colleges must also graduate with a 3.0 high-school GPA and were originally allotted a \$1000 scholarship per academic year, but this amount was raised to \$3,000 by 1996. Private college enrollees were also given an additional \$1045 Georgia Tuition Equalization Grant (provided by funds outside of HOPE) (Georgia Student Finance Commission 2004). Once in college, all scholarship recipients are required to maintain a 3.0 GPA at the 30, 60 and 90 credit hour checkpoints in order to continue receiving financial assistance from HOPE.¹⁶

The HOPE Program's Grant portion of the program is essentially an entitlement with no merit requirements; eligibility does not depend on high school or college GPA. The grant covers tuition and HOPE approved mandatory fees at only non-degree programs at two-year and less than two-year schools. Consequently, the incentives

¹⁶ Cornwell, Christopher, et al. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms." *State Merit-Scholarship Programs and Racial Inequality* 79-98. Web. <<https://www.nmefoundation.org/getmedia/78d0251f-ee9d-4410-9645-ac16392be40c/heller-marin-state-merit-scholarship-2004>>.

related to merit aid do not apply to technical institutions that offer diplomas and certificates.¹⁷

Between 1993-1999, HOPE awards were evenly distributed between scholarships and grants, however scholarships accounted for 77.5% of total aid disbursed to students. 72% of HOPE Scholars enrolled in four-year public institutions, which absorbed 77% of all scholarship aid. In addition, 8.4% of recipients attended private, four-year colleges, which amassed 12.5% of scholarship aid. Together, public and private institutions enrolled over 80% of HOPE Scholarships recipients who received nearly 90% of the funds for merit-based aid. Thus, a very small portion of HOPE's funds went to need-based grants at two-year and non-degree granting technical institutions.¹⁸

In the preliminary stages of the program, the Georgia General Assembly established an income cap of \$66,000 for the scholarship awards in order to target students from lower socioeconomic backgrounds. Throughout the 1990s, Georgia's lottery program became one of the most successful in the nation with lottery sales growing rapidly. Georgia saw revenues of \$1.13 billion in lottery sales in just the first year, with \$360 million going towards education programs in the state. As a result, the state legislature decided to raise the income cap to \$100,000 in 1994 and abolished it

¹⁷ Ibid 12

¹⁸ Cornwell, Christopher, David B. Mustard, and Deepa J. Sridhard. "The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's HOPE Program." *Journal of Labor Economics* 24.4 (2006): 765.

entirely the following year.¹⁹ This allowed Georgia's HOPE to become the most all inclusive scholarship program in the nation. HOPE now had no limits on who and how many students could receive aid and the opportunities allotted to Georgia's high school graduates to attend college tuition free were now endless.

Georgia also established a Pell Grant offset on HOPE Scholarships in the initial stages of the program. The offset required that any grants such as the federal Pell Grant or private scholarships be deducted from the HOPE award. This meant that low-income students who were eligible for a large Pell Grant award received no HOPE Scholarship, except for a \$400 yearly book allowance, even if they met the eligibility and merit requirements of the HOPE Scholarship. Due to the Pell Grant offset rule, Georgia's education officials became concerned that students would stop applying for federal student aid once HOPE became available and consequently required that students from families with incomes lower than \$50,000 complete the then four-page Free Application for Federal Student Aid (FAFSA) which requests detailed information about family income, expenses, assets and tax data, when applying for HOPE. Students who came from families with incomes above \$50,000 were only required to fill out a short, one-page form that required no information about family finances other than confirmation that family income was indeed above the cutoff.²⁰

¹⁹ Ibid 12

²⁰ Dynarski, Susan "Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance." *National Tax Journal* 53.3 (2000): 636. Web.
<<http://users.nber.org/~dynarski/2000%20Hope%20for%20Whom.pdf>>.

Georgia HOPE's Effect on Enrollment Rates

One of the more widely discussed positive impacts of Georgia's HOPE Scholarship and Grant Program is its effectiveness at increasing enrollment rates at Georgia's colleges and universities. Prior to HOPE, Georgia had college attendance rates that were well below the national average; however the HOPE program worked to dramatically change that. In 2002, Cornwell, Mustard and Sridhar published a study on the effects of the HOPE program on enrollments in Georgia's colleges and universities. Using a measure of the ratio of first-time freshmen to recent high school graduates and comparing these to fourteen other southern member states of the Southern Regional Education Board (SREB) during the years prior to and after the program's implementation, they found that total college enrollment was six percentage points higher (8% increase) in Georgia than for the SREB as a whole due to the HOPE Program. This implies that HOPE added 2,889 freshmen per year to Georgia colleges, which totals about 15% of freshmen scholarship recipients between 1993-1997.²¹ These high enrollment rates were heavily concentrated in the state's four-year institutions. Furthermore, the top ten schools in the states bordering Georgia who would have drawn the most Georgia students saw a significant drop in their freshmen enrollment from 17% of Georgia residents in 1992 to just 9% in 1998.²²

²¹ Cornwell, Christopher M., and David B. Mustard (2002). "The Distributional Impacts of Lottery-Funded, Merit-Based College Scholarships: Evidence from Georgia." University of Georgia Department of Economics Working Paper.

²² Dynarski, Susan. "Race, Income, and the Impact of Merit Aid." *Who Should We Help? The Negative Social Consequences of Merit Scholarships* 68-80. Web. <<http://files.eric.ed.gov/fulltext/ED468845.pdf>>.

While this nearly six-percentage point increase in enrollment rates at Georgia's colleges and universities was considered significant, much of this was attributed to movement between in state and out-of-state as well as four-year and two-year institutions. When examining HOPE's effect on the number of Resident and Out-of-State Enrollees in four-year schools, compared to the SREB Control Group from 1988-1996, the HOPE Scholarship did not significantly increase the number of recent-graduate Georgians attending a four-year college. What the award did accomplish was it gave students an incentive to remain in state. The scholarship reduced the number of students leaving Georgia to attend college out-of-state by an average of 560 students per year between 1993-1997, which represents about two-thirds of the total enrollment gain for this group.²³

The awards that HOPE distributed greatly decreased the relative prices of enrolling at nearly all of the in state institutions in two ways. First, the scholarship reduced the price of four-year public colleges relative to out-of-state institutions. This gave students who were planning on attending a four-year institution the incentive to remain in state and it also pushed students who were intending on enrolling at a two-year institution to "move up" to a four-year, degree granting institution. Second, the scholarship decreased the cost of Georgia's four-year private schools relative to other out-of-state private institutions. However, the percentage change in price of four-year private institutions with a HOPE Scholarship was smaller compared to public

²³ Cornwell, Christopher, et al. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms." *State Merit-Scholarship Programs and Racial Inequality* 79-98.

institutions. This shift of enrollment between in-state and out-of-state institutions should be realized almost exclusively at the state's four-year institutions, as students who plan to attend a two-year school generally do not go out-of-state to do so. Students attending four-year colleges are eight times more likely to enroll out of state than students choosing to attend two-year colleges.²⁴ Thus, nearly all of the 5.9 percentage point increase in Georgia's enrollment rate is attributed to four-year public and private schools with each accounting for about half of the increase. In contrast, enrollment rates at two-year colleges showed no net change.²⁵

HOPE'S Impact on Low-Income Students

The HOPE Program can be credited for influencing Georgia high school graduates to remain in state for college as well as encouraging some students who formerly were intending on enrolling at a two-year or technical institution to pursue a four-year degree instead. However, it is important to note that Georgia's increase in enrollment rates at its institutions of higher learning was attributed more to a change in college choice (influencing where someone who is planning to attend college actually enrolls) as opposed to an expansion of access (making college affordable for those who would otherwise be unable to go).²⁶

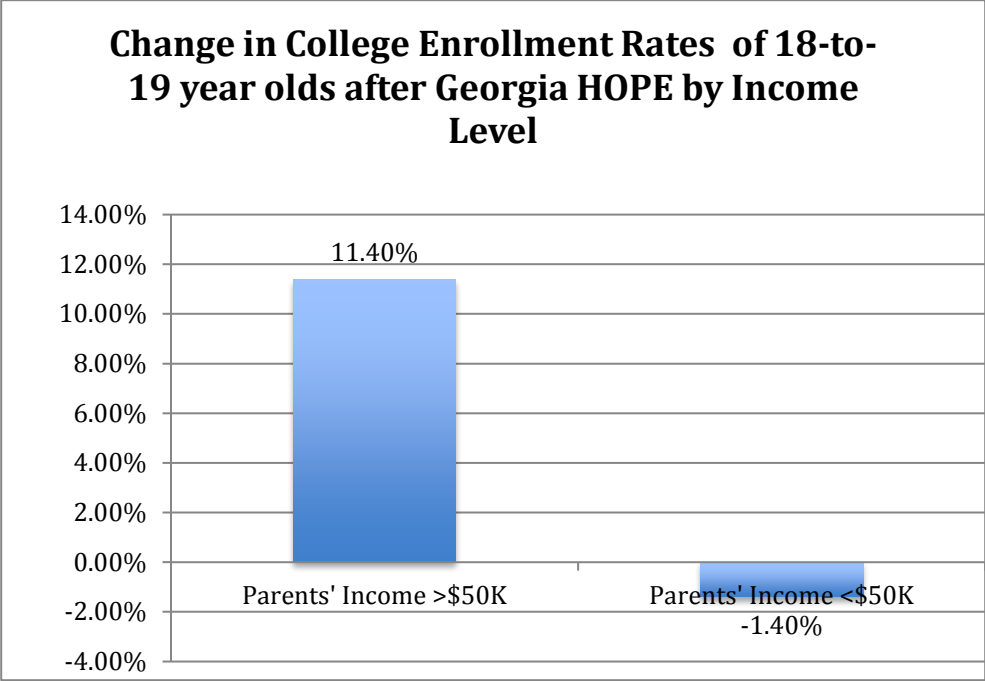
²⁴ Dynarski, Susan "Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance." *National Tax Journal* 53.3 (2000): 636. Web.
<<http://users.nber.org/~dynarski/2000%20Hope%20for%20Whom.pdf>>.

²⁵ Cornwell, Christopher, and David B. Mustard. "RACE AND THE EFFECTS OF GEORGIA'S HOPE SCHOLARSHIP." (2002): 56.

²⁶ Cornwell, Christopher, et al. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms." *State Merit-Scholarship Programs and Racial Inequality* 79-98.

One of the key questions that state policymakers must ask themselves when examining the effectiveness of programs such as Georgia's HOPE is whether it actually succeeded in increasing college attendance rates or simply subsidizing students who would have had the financial means to attend college even in the absence of a HOPE Scholarship. While the increase in enrollment rate found in previously mentioned studies was considered significant, this increase was not shared equally among all Georgians. When comparing enrollment rates in Georgia among students from families with incomes above and below \$50,000 with other Southern states, Dynarski (2000) found that HOPE increased enrollment for students from families with incomes above \$50,000 by 11.4 percentage points as indicated in the graph below. In contrast, HOPE appeared to have virtually no effect on enrollments for Georgian youths from families with incomes less than \$50,000.²⁷ Thus, higher income students were far more likely to increase their college-going rates than low-income students as a result of the HOPE Scholarship Program indicating that the scholarship was not effective at increasing college accessibility for socioeconomically disadvantaged students.

²⁷ Dynarski, Susan "Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance." *National Tax Journal* 53.3 (2000): 636. Web.
<<http://users.nber.org/~dynarski/2000%20Hope%20for%20Whom.pdf>>.



Source: Dynarski, Susan. "Race, Income, and the Impact of Merit Aid." *Who Should We Help? The Negative Social Consequences of Merit Scholarships* 68-80.

Why has a program that was initially aimed at helping financially needy youths have this disproportionate impact? While researchers have found it very difficult to pinpoint exactly what variable or characteristic of the HOPE program caused this disparate effect on low-income students, there are several features of the program that likely caused or further exacerbated the obstacles that students from lower socioeconomic backgrounds face in the United States. First, as discussed in the Program Overview section, the application and eligibility requirements for the HOPE Scholarship vary by income. In order to apply for a HOPE Scholarship, high school graduates with family incomes of less than \$50,000 were required to fill out the four-page FAFSA application and then had to wait several months to learn the size of their grant award, which was then deducted from their HOPE Scholarship. Students from

families with incomes above \$50,000 were simply required to fill out a one-page form to confirm that their income was indeed above the cutoff point. The unintended consequence of this was that low-income youths faced more uncertainty and complexity surrounding the HOPE Scholarship application and college financial assistance process.

Second, the HOPE Scholarship had a 3.0 high school GPA prerequisite as well as a 3.0 GPA requirement at various checkpoints throughout college. Students with socioeconomically disadvantaged backgrounds are less likely to meet the academic eligibility requirements than their higher income peers. Among high schools seniors in 1993 who intended to go to college, 24.4% of high socioeconomic status (SES) students had a GPA of at least 3.5 while only 10 percent of those from low SES families had grades that high.²⁸ Lastly, while a much smaller portion of HOPE's total aid dollars actually went to need-based grants when compared to merit-based scholarship awards, Georgia further reduced spending on need-based grants in the years following HOPE's implementation.²⁹

While it is difficult to determine which of these factors may have had the greatest impact on why the HOPE program disproportionately a little effect on low SES students, it is likely that the Georgia HOPE program was comprised of a culmination of characteristics (particularly the changes the were made to the program in succeeding

²⁸ National Center for Education Statistics

²⁹ Dynarski, Susan. "Race, Income, and the Impact of Merit Aid." *Who Should We Help? The Negative Social Consequences of Merit Scholarships* 68-80. Web. <<http://files.eric.ed.gov/fulltext/ED468845.pdf>>.

years) that worked against low-income students. From a policymaker's standpoint, if the goal is to keep the best and brightest students in-state for college, then the HOPE program accomplished this to some degree. However, the initial goal of HOPE was to influence *whether* a student attends college, not *where* a student attends college.

HOPE's Impact on African American Youths

Along with many other southern states, Georgia has a long and painful history of racial segregation, particularly within its education system. Georgia is one of nineteen southern and southern-border states that have been subjected to federal desegregation mandates. In the mid 1930s, the National Association for the Advancement of Colored People (NAACP) launched a legal campaign to pressure southern colleges and universities to desegregate their campuses. Finally in 1961, after years of litigation, the NAACP won a landmark case that granted two African American students admission to the University of Georgia (UGA). Partly to avoid federal intervention, the University of Georgia and other Georgia public and private institutions followed suit and began to admit black students. Then in March of 1973, the federal Office for Civil Rights (OCR) ordered the Georgia Board of Regents to submit a plan for the complete desegregation of all institutions in the University System. After several years of failure to meet these requirements, Georgia was finally ruled to be in compliance with the provision of Title VI of the Civil Rights Act in 1988.³⁰ It is important to remember that the Georgia

³⁰ Perna, Laura W., and Joni E. Finney. *The Attainment Agenda*. John Hopkins University Press, 2014. Print.

HOPE Program was introduced a mere five years after Georgia received complete approval from OCR in fulfillment of the Civil Rights Act and only 30 years after the first Black students were allowed to enroll in Georgia's public universities. Naturally, when scholarship programs such as HOPE are created in a state like Georgia, the issue of racial equality will be of particular concern and the accessibility of college for black youths as a result of HOPE must be examined.

Between 1993-1997, HOPE raised enrollment rates among blacks at four-year public colleges by 21% and at four-year private colleges by 16% (see table below). This percentage increase actually exceeded the effect for whites whose enrollment rates increased by 5% in four-year public colleges and 12% in four-year private institutions.³¹

HOPE Effects on Enrollment Rates by Race (1993-1997)			
Type of Institution	Pre-HOPE Average Enrollment	Estimated Increase in Enrollment Due to HOPE	Implied Percentage Change in Enrollment Rate
Public 4-Year			
All Races	0.099	0.008	8%
Whites	0.115	0.006	5%
Blacks	0.065	0.013	21%
Private 4-year			
All Races	0.045	0.008	17%
Whites	0.039	0.005	12%
Blacks	0.06	0.01	16%

Note: Enrollment rates are measured by the ratio of first-time freshmen to 18- and 19-year olds.
Source: Cornwell, Mustard and Sridhar (2002)

³¹ Cornwell, Christopher M., David B. Mustard, and Deepa Sridhar (2002). "The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's HOPE Scholarship." University of Georgia Department of Economics Working Paper 00-480.

This large variance in enrollment rates between black and white youths can be partially attributed to the fact that prior to HOPE, blacks had much lower college attendance rates to begin with and thus, a relatively small increase in enrollment rates can account for a relatively large percentage change. Additionally, many Historically Black Colleges and Universities (HBCUs) are located in Georgia and thus create incentives for college bound African Americans to remain in state as well as relocate to Georgia. The increase in enrollment at Georgia's institutions was concentrated in the Historically Black Colleges and Universities (HBCUs) where enrollment increased after HOPE was introduced.³² Georgia's HBCUs are generally considered to be less selective when compared with the University of Georgia and Georgia Tech with all but one of Georgia's HBCUs rated as "less competitive" by *Barron's*.³³ On the other hand, enrollment rates of blacks at the University of Georgia and Georgia Institute of Technology (the state's most selective institutions) fell during the 1993-1998 HOPE period.³⁴ The Georgia HOPE Scholarship increased merit standards at its flagship universities, thereby creating socioeconomic and racial stratifications among its universities and made it more challenging for low-income and minority students to gain admissions at these schools.

³² Cornwell, C. M., Mustard, D. B., & Sridhar, D. (2004). The enrollment effects of merit-based financial aid: Evidence from Georgia's HOPE Scholarship. *Revised and resubmitted to the Journal of Labor Economics*.

³³ Profiles of American Colleges (24th ed.). (2001). Hauppauge, NY: Barron's Educational Series, Inc.

³⁴ Bugler, Daniel T., Gary T. Henry, and Ross Rubenstein (1999). "An Evaluation of Georgia's HOPE Scholarship Program: Effects of HOPE on Grade Inflation, Academic Performance and College Enrollment." Council for School Performance Working Paper, Georgia State University.

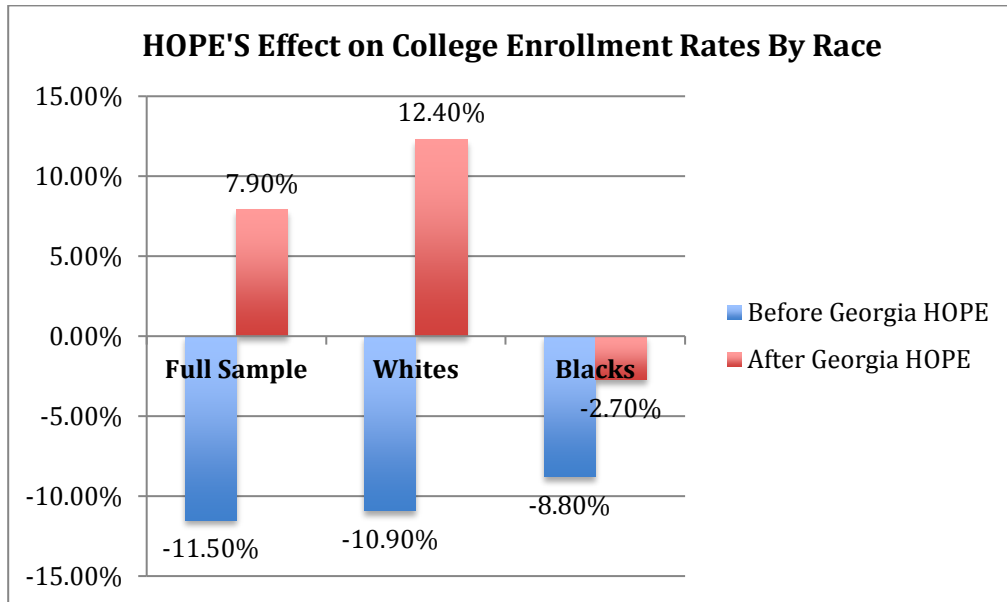
Unfortunately, the increase in black enrollment rates at Georgia's institutions cannot be attributed to an expansion of access for black youths in Georgia. Between fall of 1992, the year prior to HOPE's enactment, and the fall of 1994, the number of Georgia graduates attending college out-of-state fell by over 20% in the top-20-out-of-state destinations and fell 8% in all out-of-state institutions. Five of the top 20 out-of-state institutions previously popular among Georgia's students are HBCUs: Florida A&M University, Alabama State University, Tuskegee University, Alabama A&M University and Hampton University). Between fall of 1992 and fall of 1994, these institutions alone experienced a 34% decrease in Georgia freshmen enrollment rates.³⁵ Thus, the rise in black attendance rates at Georgia's institutions is again attributed more to a change in college choice as opposed to an expansion of college access.

Dynarski (2000) also examined college attendance rates among black and white youths as a result of the Georgia HOPE Program. Dynarski's study however, focused solely on college enrollment rates among black students *from* Georgia while Cornwell, Mustard, and Sridhar (2002) examined black enrollment rates *in* Georgia's institutions. Dynarski found that attendance rates among whites rose 12.4 percentage points faster from 1993-1997 in Georgia than in the rest of the southeastern United States while college attendance rates among blacks actually decreased slightly at -2.7 percentage points.³⁶ Thus, the HOPE Program was effective at increasing college-going

³⁵ Cornwell, Christopher, and David B. Mustard. "RACE AND THE EFFECTS OF GEORGIA'S HOPE SCHOLARSHIP." (2002)

³⁶ Dynarski, Susan. "Race, Income, and the Impact of Merit Aid." 67-83.

frequencies among whites, but had no effect on increasing college attendance rates among Georgia's black youths.



Source: October CPS, 1989-97. Regression analysis conducted by Dynarski, Susan. "Race, Income, and the Impact of Merit Aid." 67-83. Comparison group is Southeastern states.

The reasoning behind why African American students in Georgia did not benefit as greatly from the HOPE Scholarship Program may be analogous to those of low-income students. While income levels are not directly related to ethnicity, it is however, positively correlated. On average, white students typically come from families with more financial resources than blacks both in Georgia and throughout the country. Between 1989-1997, 94% of blacks and 62% of white 16 to 17 year olds in Georgia lived in families with incomes below \$50,000. Compared to the rest of the United States, these figures are relatively similar: 88% of blacks and 64% of whites live with families with incomes under \$50,000. As mentioned previously, students with parental income of less than \$50,000 must fill out the FAFSA form in order to qualify for the

HOPE Scholarship and once their financial aid award is received, this amount is deducted from their HOPE award. On the other hand, students from families with incomes above \$50,000 are only required to fill out a short, one-page form in order to qualify for the HOPE Scholarship. The above statistics indicate that only 6% of African American students in Georgia, given that they satisfied academic eligibility requirements, would have automatically qualified for a HOPE Scholarship compared to 38% of whites.³⁷ Second, black students generally have lower average GPAs in high school, which means a smaller portion of blacks will meet HOPE's academic requirements. Third, blacks are less likely to meet HOPE's college GPA requirements. For black students who do attend college with a HOPE Scholarship, they are more likely to lose their award prior to obtaining their degree.

Georgia HOPE Tightened Eligibility Requirements

While Georgia attempted to turn HOPE into the most all inclusive scholarship program in the country by eliminating the income cap and investing more in scholarship funds, state legislatures soon realized that even the immense lottery success that Georgia was experiencing in the 1990s was insufficient to meet the even faster growth in educational expenditures, most of which was due to HOPE. In the years following its inception, the share of program resources apportioned to scholarships grew rapidly and

³⁷ Dynarski, Susan "Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance." *National Tax Journal* 53.3 (2000): 636. Web.
<<http://users.nber.org/~dynarski/2000%20Hope%20for%20Whom.pdf>>.

the number of high school graduates eligible for HOPE magnified. From 1994 to 1995, in just one year, high school students eligible to receive a HOPE Scholarship jumped over 50% from 29,840 to 45,149 and the percentage of students satisfying merit requirements grew from 45% to 65%. HOPE Scholarship recipients in turn took their awards to Georgia institutions, which experienced enrollment growth from 23% to 70% of residents over this same period.³⁸ By 1999, HOPE had surpassed the size and scope of the federal Pell Grant by about twice as much.

Georgia's legislatures projected that the HOPE expenses would soon exceed the educational resources brought in by lottery revenues and began taking steps to restore HOPE's financial stability. This need to direct HOPE in a more financially stable direction turned the political debate in favor of those who believed that the original objective of HOPE was to reward high achieving students and that the program should have a stronger focus on merit. As a result, the Georgia HOPE Program further strayed from its original mission of helping students who wouldn't otherwise be able to afford the costs of higher education. Some argued that an award that was earned by two thirds of high school graduates had lost its focus on merit achievements. As a result, in an effort to make HOPE more "fair" and to restore financial stability, Georgia's senate required that after the class of 2000, high school GPAs would be calculated only from core college preparatory classes. At the time, it was believed that earning an "A" or "B" in a college preparatory course would be more difficult than earning similar grades in an

³⁸ Cornwell, Christopher, and David B. Mustard. "RACE AND THE EFFECTS OF GEORGIA'S HOPE SCHOLARSHIP." (2002): 56.

elective course. Policymakers believed that this change would provide the most significant savings by reducing about 30% of qualifying high school graduates.³⁹

Despite these changes, the promise of free tuition at Georgia's institutions was too appealing to pass up and many students stepped up to meet these tightened academic standards. The number of HOPE recipients who enrolled at Georgia's colleges actually increased from 70,623 in 2000 to 76,436 in 2002 which was a larger increase than in the years before these academic standards were reformed.⁴⁰

Georgia was ultimately not able to restore financial stability through tightening academic requirements, which led the legislature to enact a series of reforms in 2004, which included limiting the fees that the HOPE Scholarship would cover as well as implementing new checkpoints for renewing the scholarship. The most significant of these changes was the standardization by which high school grades could be calculated which was estimated to save \$42.9 million in the first year it was implemented. Beginning with the high school class of 2007, high school grades must be calculated with a true "B average" of a 3.0 cumulative GPA on a 4.0 scale for all core curriculum courses, as opposed to the previous 80 numeric average calculation. This revision was believed to significantly reduce the number of high school graduates who were eligible for HOPE. Two key requirements existed under this new rule. First, all grades received

³⁹ Cornwell, Christopher, and David B. Mustard. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms." 89.

⁴⁰ Seligman, J., Milford, R., O'Looney, J., & Ledbetter, J. (2004). HOPE Scholarship Joint Study Commission Report. Athens, GA: Carl Vinson Institute of Government. Retrieved September 30, 2004, from <http://www.cviog.uga.edu/hope/report.pdf>.

in core courses must count towards the cumulative GPA. Previously, a student who received a D and retook the course for a B would have the higher grad count towards their GPA for the purposes of HOPE determination. Second, the new rules standardized the methods by which grade point averages were calculated. The table below provides hypothetical grades for a high school student. Column 1 shows that under the previous rule, the numerical average of grades could be calculated prior to converting it into a letter grade. As a result, a student who earns a 79 in four core courses (four high C's) could offset these by earning an 84 (medium grade of B) in a fifth course and this would translate to an overall average of 80, or a "B" average. Under the new policy, schools were required to convert numeric averages into letter grades for each core course and then take the averages of all letter grades when calculating an overall grade. For the hypothetical student, this would result in an overall GPA of 2.20 or a "C" average which would disqualify the student from the HOPE Scholarship.⁴¹

Table 4-3: Contrasting the Old and New HOPE GPA Eligibility Rules

Class	(1) Old Policy	(2) New Policy
English	79	C (2.0)
Foreign Language	79	C (2.0)
Math	79	C (2.0)
Science	79	C (2.0)
Social Science	84	B (3.0)
Grade Point Average	80	2.20
Overall Letter Grade	B	C
Hope Eligible?	Yes	No

Note: The scale used in Georgia translated scores between 70-79 into a "C," scores between 80 and 89 into a "B," and scores above 90 into an "A."

Source: Cornwell, Christopher, and David B. Mustard. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms."

⁴¹ Cornwell, Christopher, and David B. Mustard. "Georgia's HOPE Scholarship and Minority and Low-Income Students: Program Effects and Proposed Reforms."

In 2011, the Zell Miller Scholarship was created, a new scholarship program within HOPE that promised to pay full tuition for high school graduates with at least a 3.7 GPA and a score of 1200 on the math and verbal sections of the SAT (or ACT composite scale score of at least 26). Zell Miller Scholarship recipients must maintain a 3.3 cumulative college GPA in order to continue receiving the scholarship. The state legislature also passed House Bill 326 in 2011 to modify eligibility requirements for the HOPE Scholarship and Grant. While students with a 3.0 high school GPA are still eligible for the original HOPE Scholarship, now known as HOPE Lite, the award no longer covers 100% of tuition, but rather offers a per-hour award at public institutions and this award amount depends on annual lottery revenues. All book and mandatory fee allowances have been eliminated. The new bill also increased the number of advanced courses students were required to take in high school to be eligible for the award effective for the 2015 school year. Also, HOPE Need-Based Grant recipients are now required to maintain a 3.0 GPA throughout college to retain their award.

In addition, in 1995, two years after HOPE was introduced, Governor Miller changed the rules of HOPE to state that students who lost their scholarship after their freshmen year would be given a second chance. If the student completed their sophomore year with a cumulative 3.0 GPA, they would regain their HOPE Scholarship in their junior year. Essentially any student who lost their scholarship could regain it at any one of the credit hour checkpoints by earning a 3.0 GPA. The new bill eliminated this second chance rule.

Keeping the Best and Brightest in Georgia

Georgia's HOPE Program has thrived in the realm of keeping the "best and brightest" students in state, something that has become part of the HOPE mantra. By encouraging students to attend college in state as well as raising academic eligibility requirements, the HOPE Scholarship changed the characteristics of freshmen enrollment at Georgia's four-year institutions. HOPE increased the quality of entering freshmen in Georgia's universities relative to out of state institutions and this is evidenced by several factors.

First, the average freshmen SAT scores at the University of Georgia, Georgia Institute of Technology and Georgia State University increased from 1039 to 1073 between 1992 and 1996.⁴² The average verbal SAT score of all Georgia universities and colleges rose by 4.9 points and the average math SAT score increased by 6.3 percentage points. The institutions deemed the highest quality by Peterson's "university" category especially benefited from HOPE, experiencing a 14.3 point increase in verbal SAT scores and a 9.4 percent point increase in math SAT scores. The institutions deemed the

⁴² Henry, Gary T. and Daniel T. Bugler. 1997. Evaluating the Georgia HOPE Scholarship Program, Impact on Students Attending Public Colleges and Universities. Georgia Council for School Performance. (<http://www.arc.gsu.edu/csp/default.htm> (accessed March 20, 2004)).

lowest quality experienced no statistically significant effect from HOPE on any measure of student quality.⁴³

Similarly, the average GPA of incoming freshmen at the University of Georgia increased from 3.33 to 3.52 between 1992 and 1997.⁴⁴ Since high school GPA and test scores are often positively correlated with family income, this likely means that as HOPE's eligibility standards have increased, so has the stratification of students in Georgia's higher education institutions.

The shortcoming to such high admissions standards is that many students who are considered academically accomplished, but do not place in the top of their graduating class, are finding it increasingly difficult to gain admissions at their state's flagship schools. Georgia HOPE, in a sense, has taken the notion of "keeping the best and brightest in state" to an extreme. As a result, these students are left with choosing to attend one of the state's less selective four-year colleges, a two-year college (in which the HOPE Scholarship is not applicable to) or an out-of-state institution. As one Georgia high-school graduate who was not eligible to the University of Georgia with a 1150 SAT score and a high school GPA of 3.4 in 2001 describes, "As a result of the HOPE Scholarship, above average-but-not-quite-outstanding students are handing over the dough to schools like Auburn, Tennessee, Clemson, Alabama, Ole Miss and other

⁴³ Cornwell, Christopher, and David B. Mustard. "Merit Aid and Sorting: The Effects of HOPE-Style Scholarships on College Ability Stratification." (2006): 5. Web. 1 Jan. <<http://people.terry.uga.edu/mustard/Sorting-Ability-2011.pdf>>.

⁴⁴ Ibid 24

large universities throughout the South.”⁴⁵ In 2014, the incoming freshmen class at the University of Georgia set the record for the highest average GPA of 3.9 on a 4.0 scale. The previous record was set in 2013 with an average incoming freshmen GPA of 3.86 on a 4.0 scale. The mid-50 percentile GPA range was reported as 3.79-4.06.⁴⁶ For students who are able to afford the out of state tuition along with the housing expenses, an out of state school would be a good substitute to Georgia’s universities. However, low-income students are often left with the option of attending a less selective four-year institution in state or enrolling at a non-degree granting two-year or technical institution, an unfortunate option for students who could fare very well at a more prestigious university.

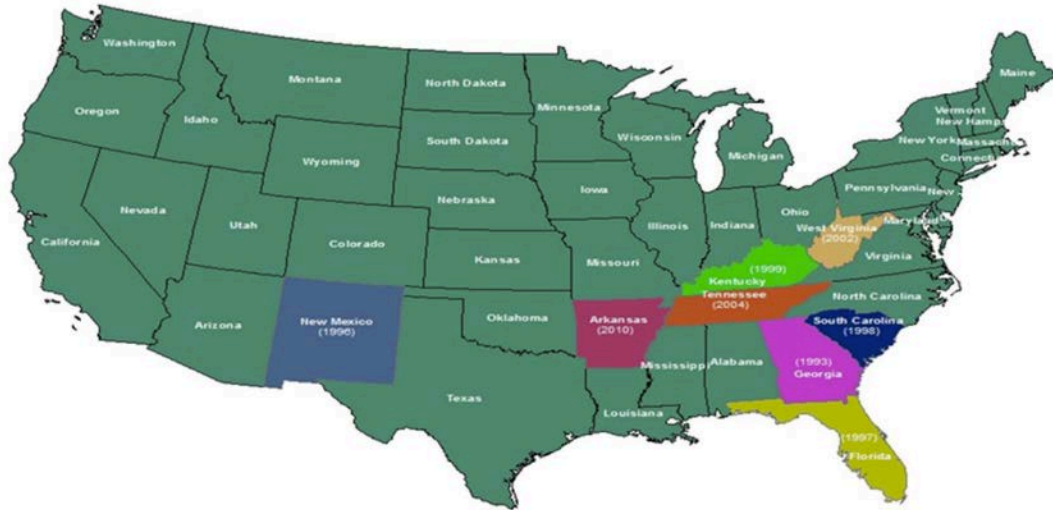
The Explosion of Merit-Based Financial Aid Programs

Following Georgia HOPE, multiple states have introduced merit-based financial aid programs within their state to broaden access to higher education and increase college attendance and completion rates. The following figure shows the diffusion of merit-based, lottery-funded scholarship programs throughout the United States. With the exception of New Mexico, the expansion of lottery scholarship programs has been concentrated in the southeast region of the United States, many of which are clustered around Georgia.

⁴⁵ Roberts, Kristen (2001). "HOPE handicaps some of Georgia's best students," *The Atlanta Constitution*, 25 June.

⁴⁶ "UGA freshmen set record with average GPA of 3.9." *WSB-TV Atlanta* [Atlanta, GA]. 7 Aug. 2014. Web. <<http://www.wsbtv.com/news/local/uga-freshmen-set-record-average-gpa-39/137554056>>.

Diffusion of Lottery Programs



Since the 1990s, the growth of merit-based financial aid programs has been profound with seventeen states⁴⁷ introducing their own versions of these programs for their own high school graduates. The most recent one was introduced in Arkansas in 2010. Despite the popularity of these programs, little thought and consideration has been put into whether these initiatives actually increase college access for students. Recall that the Georgia HOPE program was created by Zell Miller, who intended for the program to be for “*bright students who would find it otherwise difficult to go to college*” due to the rising costs of tuition. He stressed the importance of giving these students a means to pursue higher education for both the economic well being of the

⁴⁷ Alaska (1999), Arkansas (1991, 2009), Florida (1997), Georgia (1993), Kentucky (1999), Louisiana (1998), Massachusetts (2006), Maryland (2002), Michigan (2000), Mississippi (1996), Missouri (1997), Nevada (2000), New Mexico (1997), South Carolina (1998), West Virginia (2002, 2005) and Tennessee (2003, 2004)

state as well as allowing low-income students a chance to create a better life for themselves. While the original intent of Georgia HOPE was to help disadvantaged students, many states around the nation interpreted HOPE as a way to bolster national rankings in the education sphere. As a result, they increased academic eligibility requirements within these scholarship programs and as a consequence focused their funds on those who are more likely to have the means and resources to meet these requirements. Unfortunately, these merit-based financial aid programs have done little in the way of expanding access to higher education for its students.

Of the eight states that award merit-based lottery scholarships, five of the states require students to submit a FAFSA application to apply to the scholarship program. Four of these five states allow the FAFSA to serve as the student's application for the scholarship program and one state, West Virginia, requires students to fill out the FAFSA as well as a separate application to be eligible. Five of the eight states (Georgia, Florida, South Carolina, West Virginia, and Tennessee) require a minimum high school GPA of 3.0. Several states however, offer supplemental awards or additional scholarship programs that require more rigorous academic eligibility standards, but also award higher amounts. For instance, Georgia has the Zell Miller program, which requires a 3.7 GPA, but awards full tuition to students enrolling at public in-state institutions and \$2,000 for tuition at private institutions. Additionally, Georgia recently changed its award amount from full tuition to a per-hour award at public institutions. Florida has three different programs: Florida Gold Seal Vocational Scholars (GSV) requires a minimum 3.0 GPA and 18 ACT score; the Florida Medallion Scholars (FMS)

requires a minimum 3.0 GPA and 20 ACT score; and the Florida Medallion Scholars Award (FAS) requires a 3.5 minimum GPA and 100 hours of community service. FAS awards \$25 more per credit hour than GSV and FMS.⁴⁸

Arkansas and Kentucky have some of the lowest academic eligibility requirements among states. Arkansas has a minimum GPA requirement of 2.5 or an ACT score of 19. Kentucky's scholarship program awards varying amounts depending on test scores and high school GPA with a minimum baseline GPA of 2.5. Students who earned a 2.5 high school GPA would earn a base amount of \$125 each year they are enrolled in college and an additional \$25 for every 0.1 GPA point above the minimum of 2.5. Students also receive \$35-\$36 for every ACT point above the minimum score of 15.⁴⁹

New Mexico is also another state that has some of the lowest academic eligibility requirements. It is the only state that bases its scholarship eligibility requirements entirely on performance in college. Students must earn a 2.5 GPA on a 12 credit hour course load in their first semester of college and must maintain a 2.5 GPA to continue receiving awards that cover full tuition for up to 8 semesters.

⁴⁸ "A Comparison of States' Lottery Scholarship Programs." *Tennessee Higher Education Commission* (2012): Web.

⁴⁹ Ibid 44

Chapter 3: The New Mexico Lottery Scholarship Program

The Georgia HOPE Scholarship was widely criticized for its high academic eligibility component—a 3.0 high school GPA, calculated from core high school courses, and a 3.0 college GPA at designated checkpoints to continue renewal of the scholarship. A financial aid program with such high merit requirements was thought to create stratification among low-income youths who tend to earn lower GPAs than their middle or upper income peers. As a result, the HOPE Scholarship disproportionately benefited students who were able to meet these academic eligibility prerequisites, namely students from families of higher socioeconomic status. The criticisms surrounding Georgia HOPE’s merit requirements begs the question of what would happen if such a program were to lower its GPA eligibility standards? Would this allow a merit-based financial aid program to target its resources towards low-income students and increase college accessibility? Moreover, would a lower college GPA requirement increase college retention rates and in turn allow more low-income students to graduate with a diploma?

This section will examine the New Mexico Lottery Scholarship Program (also known as NM Success), a broad based scholarship program similar to HOPE in that it was designed to increase access to college for students who wouldn’t otherwise be able to afford to go. The state advertises the scholarship as funds that “opens the door to new generations of New Mexicans to obtain a college education which otherwise might not

have been possible”⁵⁰ with television advertisements promoting lottery ticket sales and showing a gowned college graduate who states that she is the first in her family to attend college and that it could not have been done without the New Mexico Lottery Scholarship.⁵¹⁵²

New Mexico’s Lottery Scholarship Program was founded by State Senator Michael Sanchez who made it is mission to implement a Legislative Lottery Scholarship Program similar to Georgia’s HOPE. Many rallied behind utilizing lottery revenues to fund the state’s Scholarship Program, igniting the public’s interest by justifying that the program would help the relatively poor state of New Mexico retain an educated population and workforce. In 1996, the “Lottery Success” legislation passed and the program began in the fall of 1997. The program’s stated goal was to “assist all New Mexican high school graduates by deferring the costs of tuition at public postsecondary institutions in New Mexico, thereby keeping New Mexicans at home and encouraging students to complete a four-year degree in a timely manner.”⁵³ This section will explore whether the state of New Mexico was able to accomplish this objective by means of the state’s Lottery Scholarship Program.

⁵⁰ "Legislative Lottery Scholarships." *New Mexico Lottery*. Web. <<https://www.nmlottery.com/scholarships.aspx>>.

⁵¹ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 103.

⁵² Binder, Melissa, and Philip T. Ganderton. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?."43.

⁵³ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 103.

State of New Mexico

New Mexico has a high minority and low-income population with racial and Hispanic origin minorities comprising approximately half of the state's population. In 2000, the Census reported that 42.1% of New Mexicans identified themselves as Hispanic origin and 9.5% identified themselves as Native American. African Americans and Asians comprised only 3% of the population.⁵⁴ Among the state's high school graduates in the year 2000, 41.1% were Hispanic and 11.5% were Native American.⁵⁵ The large presence of a minority and low-income populace signifies that a large-scale, state sponsored financial aid program may produce better overall outcomes for its target population than it would for a state that did not have as diverse of a population.

Program Overview

Though the New Mexico Lottery Scholarship Program was inspired by Georgia HOPE as well as a flood of other similar programs in the 1990s, it differs from many merit-based financial aid programs in several ways. The program is unique in that eligibility is based on college, rather than high school, performance. Immediately upon graduation, students hoping to be eligible for the scholarship must enroll in a New Mexico public two or four-year college. Once enrolled in college, students must earn a 2.5 GPA or higher on a 12 credit hour course load in their first semester (compared with

⁵⁴ U.S. Census Bureau. (1990 and 2000 Censuses). Table DP-1. Profile of General Demographic Characteristics for New Mexico.

⁵⁵ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 103.

a 3.0 cumulative college GPA at various checkpoints for HOPE) to receive the NM Success Scholarship in their second semester which covers full tuition. Students may receive up to eight semesters of full tuition on NM Success if they continue to maintain a 2.5 GPA and enroll full-time. Recipients may choose to postpone the award, maintain the award after transferring to a different in-state institution and receive the award after becoming ineligible for other aid. Since students can only become eligible in their second semester of their first year in college, most institutions in the state provide a “bridging scholarship” which is comprised of the same criteria for eligibility as NM Success. Nearly all institutions require a high school GPA of 2.5 or higher to be eligible for the Bridge to Success Scholarship (Bridge Scholarship).⁵⁶ The 2.5 GPA initial eligibility and award renewal requirement is the lowest of any state sponsored merit-based financial aid program.

Tuition and Fees at New Mexico’s Institutions

As mentioned previously, the Lottery Scholarship sought to increase college attendance and completion rates at New Mexico’s colleges and universities by reducing the cost of tuition for in-state students. It is important then to look at tuition and fee amounts at New Mexico’s most popular colleges and universities. In 1996 (pre-program), the resident tuition and fees at New Mexico’s research universities were just over \$2,000⁵⁷, which was considered relatively high for many families in the state at the

⁵⁶ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 104.

⁵⁷ Office of Institutional Research, "The University of New Mexico: UNM Facts 1996-97." (1997): <http://oia.unm.edu/documents/factbook_docs/1996fb.pdf>.

time. According to the National Center for Education Statistics, the median household income in 1996 was \$25,086 (U.S. median household income in 1996: \$35,492)⁵⁸, which was the lowest of all fifty states. In contrast, the cost of attending a two-year college was much cheaper. One community college less than a mile away from the University of New Mexico, the state's flagship research institution, charged less than \$700 while some community colleges charged as little as \$350.⁵⁹ Low tuition rates at New Mexico's community colleges suggests that the program would likely have the greatest benefit on low-income students for whom even the low tuition rates posed a barrier to entry.

Furthermore, an advantage of the Lottery Scholarship is that it eliminates the cost differences between institutions, allowing students to choose among a college or university based on quality alone, rather than factoring which institution is within their price range.

The New Mexico Lottery Scholarship Effects on Enrollment

NM Success can be treated as a natural experiment: the treatment group would be comprised of students who were eligible for the NM Success Scholarship due to the timing of their high school graduation and the control group would include those who could not be eligible for the scholarship because they graduated from high school before

⁵⁸ "Household income and poverty rates, by state: 1990, 1995, and 1996." *National Center for Education Statistics*. U.S. Department of Education, <<https://nces.ed.gov/programs/digest/d98/d98t020.asp>>.

⁵⁹ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 104.

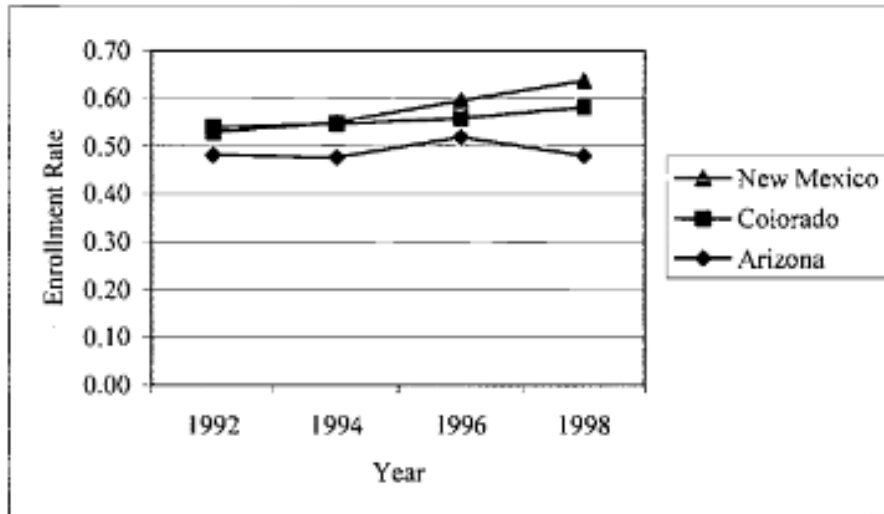
the program began. In order for the results to be as valid as possible in a natural experiment, the subjects in both the treatment and control groups must be as similar as possible. Thus, Binder and Ganderton (2002) utilized enrollment data of other states as a control to account for any possible differences that could have been due to changes over time rather than the treatment of the two groups.⁶⁰

Between 1996 and 1998, the first year following the introduction of NM Success, the researchers found that enrollment rates in New Mexico as well as bordering states were already experiencing a trend in rising enrollment rates even prior to the lottery program. Before the implementation of NM Success, New Mexico as well as several bordering states were already experiencing a steadily rising trend in enrollment rates as shown in the graph below. Between 1996 and 1998, the first year following the introduction of NM Success, enrollment rates showed no discontinuity with the current existing trend. In other words, there appeared to be no spike in enrollment rates following the introduction of the scholarship program. Furthermore, there seemed to be no significant difference between the enrollment rate trend for New Mexico and those for Arizona and Colorado, two neighboring states that are similar to New Mexico in that both have a relatively small population and share a natural resources-based economy.⁶¹

⁶⁰ Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?" In Heller, Donald E. and Patricia Marin, eds. *Who Should We Help? The Negative Social Consequences of Merit Scholarships*. (Boston: Harvard Civil Rights Project.)

⁶¹ Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?" In Heller, Donald E. and Patricia Marin, eds. *Who Should We Help? The Negative Social Consequences of Merit Scholarships*. (Boston: Harvard Civil Rights Project.)

**Total College Enrollment Rates of Public High School Graduates
(1992-1998)**

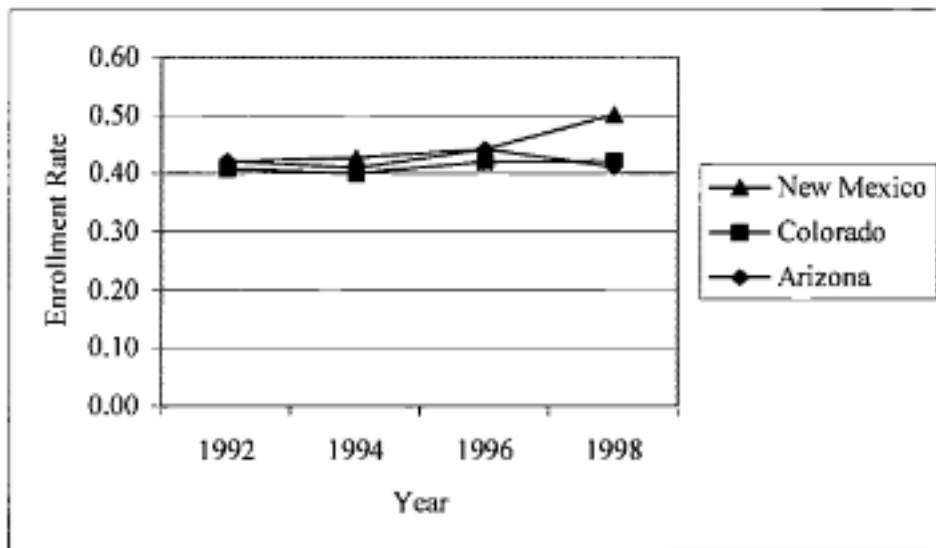


Source: Integrated Postsecondary Education Data System (IPEDS) and Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?"

From 1998 to 2000, the New Mexico Commission on Higher Education reported that enrollment rates at *all* institutions (both in-state and out-of-state) increased by only 2%, which was the smallest increase of any two-year period between 1992 and 2000. Therefore, the New Mexico Lottery Scholarship did not appear to expand college access for the state's high school graduates in the first three years of the program. However, the program was particularly effective at deterring students from choosing out-of-state institutions. Between 1992 and 1998, New Mexico, Arizona and Colorado posted very similar rates, however in 1998, New Mexico experienced a surge in enrollment rates of

7 percentage points (16% increase).⁶² Similar to Georgia HOPE, NM Success was effective at keeping high school graduates in state for college.

Total College Enrollment Rates of Public High School Graduates



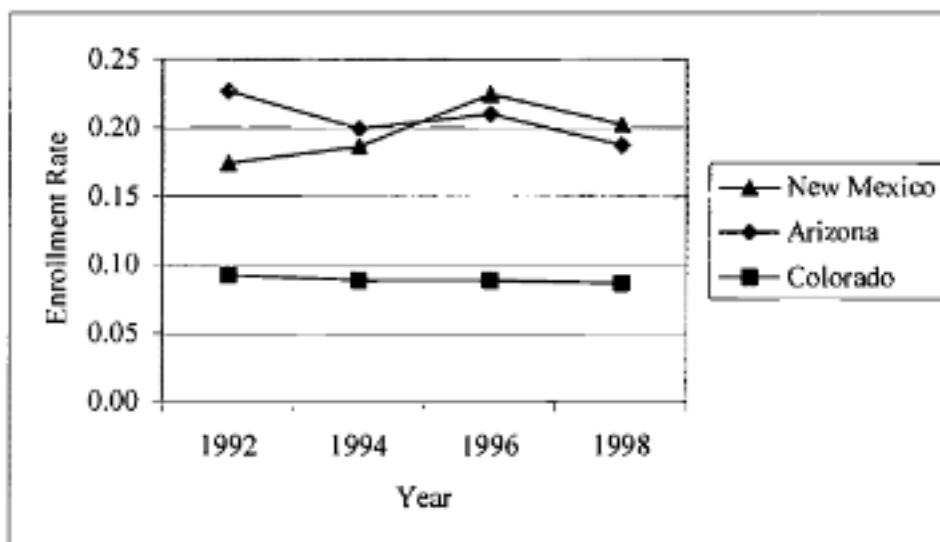
Source: Integrated Postsecondary Education Data System (IPEDS)

As mentioned previously, the Lottery Scholarship eliminates the cost differences between institutions thereby allowing students to choose among colleges based off of quality rather than factoring in costs. As a result, many high school graduates who likely would have previously attended an inexpensive two-year college chose to enroll at one of the state's more prestigious four-year institutions causing a shift from two-year colleges to four-year universities in New Mexico, similar to that of the Georgia HOPE program. Relative to Arizona and Colorado, New Mexico experienced a sharp

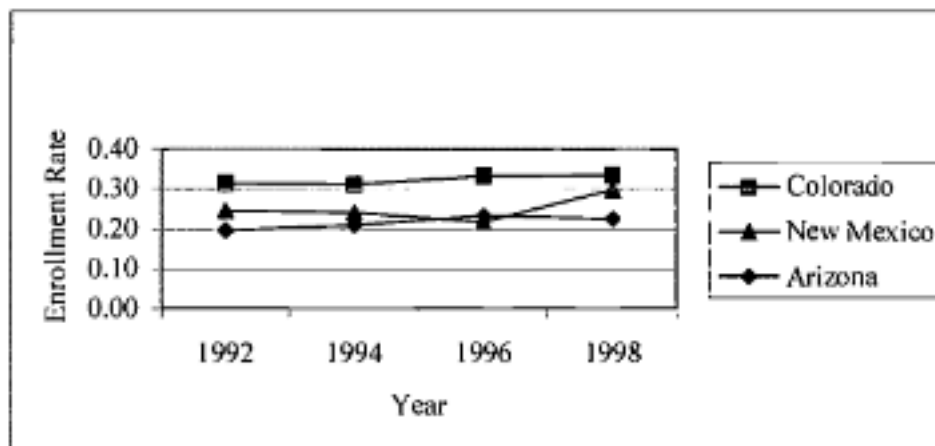
⁶² Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?" In Heller, Donald E. and Patricia Marin, eds. *Who Should We Help? The Negative Social Consequences of Merit Scholarships*. (Boston: Harvard Civil Rights Project.)

decline in two-year college enrollment rates between 1996 and 1998 and a sharp rise in four-year college enrollment rates as depicted in the following graphs.⁶³

In-State Enrollment Rates for Two-Year Institutions



In-State Enrollment Rates for Four-Year Institutions



⁶³ Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?" In Heller, Donald E. and Patricia Marin, eds. *Who Should We Help? The Negative Social Consequences of Merit Scholarships*. (Boston: Harvard Civil Rights Project.)

Source: Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?" In Heller, Donald E. and Patricia Marin, eds. *Who Should We Help? The Negative Social Consequences of Merit Scholarships*. (Boston: Harvard Civil Rights Project.)

The New Mexico Lottery Scholarship Effects on Low-Income and Minority

Students

New Mexico is one of the poorest states in the nation with a high low-income populace. Thus, a scholarship program that eliminates the burden of tuition for high school graduates has the potential to have a powerful impact on the state's low-income students who aspire to go to college, earn a degree, and in turn, create a more prosperous life for themselves. Unfortunately, while the Lottery Scholarship Program was successful at increasing enrollment rates among students of varying family income levels, the program appeared to have attracted a greater proportion of higher-income students to the University of New Mexico than low-income students. As shown the table below, students from families with incomes greater than \$40,000 had the highest total percentage enrollment response rate of 83% compared to only 34% for youths from families with incomes equal to or less than \$20,000.

The table below also depicts the enrollment response rate of students of varying ethnic groups before and after the inception of NM Success. African American freshmen are shown to have the greatest percentage increase in enrollment rates for all three income levels, however, the share of black students at UNM was so low to begin

with that even a small increase in the number of students enrolling caused a large jump in enrollment rates. It is also worth noting that while all minority groups experienced enrollment rate increases that were positively correlated with income levels (for example, Hispanic students from families with incomes greater than \$40,000 experienced an increase of 80% enrollment while those from families with incomes equal to or less than \$20,000 experienced only a 37% increase) the one exception to this rule were Native American students. Enrollment at UNM increased by 49% percent among Native American youths from high income families, but a 69% increase for students from families with incomes equal to or less than \$40,000 and a 59% increase for students from low-income families. Further research could delve deeper into why the New Mexico Lottery Scholarship had this effect on the Native American ethnic groups in the state, which could offer some insight into how the program could be adjusted to result in similar outcomes for other groups.

Student Enrollment Rates by Family Income and Race

		TOTAL	White, Non- Hispanic	Hispanic	Native American	Asian	African American
Family income greater than 40k							
Average class size	Before	914	493	332	37	38	14
	After	1676	932	598	55	59	33
	Increase (%)	762 (83%)	439 (89%)	266 (80%)	18 (49%)	21 (55%)	19 (136%)
Share of (column) group	Before	.719	.808	.649	.590	.628	.512
	After	.749	.832	.681	.558	.690	.589
	Corrected difference	.030*	.024*	.032*	.032	.396* ^T	.077
Family income equal to or less than \$40,000							
Average class size	Before	358	117	179	26	22	13
	After	561	188	280	44	27	23
	Increase (%)	203 (57%)	71 (61%)	101 (56%)	18 (69%)	5 (23%)	10 (77%)
Share of (column) group	Before	.281	.192	.351	.410	.372	.488
	After	.251	.168	.319	.442	.310	.411
	Corrected difference	-.031*	-.024*	-.032 [†]	.032	-.396* ^T	-.077
Family income equal to or less than \$20,000							
Average class size	Before	178	57	87	14	13	7
	After	244	77	119	22	14	13
	Increase (%)	64 (34%)	20 (35%)	32 (37%)	8 (57%)	1(8%)	6 (86%)
Share of (column) group	Before	.140	.093	.170	.223	.222	.250
	After	.109	.068	.135	.223	.164	.223
	Corrected difference	-.031*	-.024*	-.035*	0	-.058* [‡]	-.027

Note: All students are residents of New Mexico and recent high school graduates. “Before” rows show the average for students entering UNM in the Fall semester of 1994, 1995 and 1996. “After” rows show the average for students entering the Fall semester of 1998 and 1999.

Source: UNM Freshmen Tracking System (Chisholm 2000) ¹ data pulled by Binder, Melissa and Philip Ganderton. August 2002. “Incentive Effects of New Mexico’s Merit-Based State Scholarship Program: Who Responds and How?”

The New Mexico Lottery Scholarship Effect on Student Quality at UNM

Recall that the Georgia HOPE Scholarship's higher academic eligibility requirement attracted the state's best and brightest students so much so that students who were above average, but were not at the top of their class, found it especially challenging to gain admissions at the state's most prestigious institutions. On the contrary, the New Mexico Lottery Scholarship, with its low merit requirements, had the opposite effect. Even after controlling for pre-program upward trends in grades, scholarship cohorts were found to have lower high school GPAs after NM Success was implemented. This decline in GPAs was particularly prevalent for whites and Hispanics. African Americans were the exception here with a slight increase in GPA of 0.05 after the program. All ethnic groups, with the exception of African Americans, registered an increase in the proportion of students with low ACT scores. Hispanics experience the largest increase in the number of low ACT scorers.

In-State Freshmen Entering UNM Before and After Inception of Lottery Scholarship Program by Race

		Total ^a	White, Non- Hispanic	Hispanic	Native American	Asian	African American
Entering freshmen class size	Before	1271	611	511	63	60	27
	After	2237	1120	878	99	86	56
	Increase (%)	966 (78%)	509 (83%)	367 (72%)	36 (57%)	26 (43%)	29 (107%)
Enrollment share	Before	-	.480	.402	.049	.047	.021
	After	-	.500	.392	.044	.038	.025
	Corrected difference	-	.020 [†]	-.010	-.005	-.009*	.004 [‡]
High School GPA	Before	3.32	3.35	3.29	3.21	3.48	3.06
	After	3.26	3.30	3.23	3.12	3.39	3.11
	Corrected difference	-0.24* ^T	-0.27* ^T	-0.22* ^T	-0.09 [†]	-0.09 [†]	0.05
ACT higher than 24	Before	.372	.481	.273	.170	.317	.363
	After	.313	.406	.206	.203	.357	.259
	Corrected difference	-.058*	-.140*	-.067*	.033	.040	-.104*
ACT between 20 and 24, inclusive	Before	.370	.347	.393	.399	.389	.325
	After	.373	.387	.381	.274	.281	.268
	Corrected difference	.003	.040*	-.093*	-.125*	-.108*	.341*
ACT lower than 20	Before	.259	.172	.334	.431	.294	.313
	After	.314	.206	.413	.523	.363	.473
	Corrected difference	.102*	.034*	.207*	.092 [†]	.068 [‡]	-.423*

Note: "Before" rows show the average for students entering UNM in the Fall semester of 1994, 1995 and 1996. "After" rows show the average for students entering the Fall semester of 1998 and 1999.

Source: UNM Freshmen Tracking System (Chisholm 2000) and ¹Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?"

When combining the outcomes of the New Mexico Lottery Scholarship, the program resulted in a disproportionate increase of high income students (those from families with incomes above \$40,000) as well as in increase in the number of students

with lower GPAs and ACT scores.⁶⁴ Despite the state's intentions on increasing accessibility for low-income minority students by lowering the GPA requirement as well as basing the scholarship on collegiate performance, the New Mexico Lottery Scholarship Program had the opposite intended effect. It did not increase college accessibility for underserved students and it encouraged enrollment of the type of student who did not have the preparation necessary to meet the academic demands of a four-year research university.

Update on New Mexico Lottery Scholarship Program

This section provides an update on the effects of the New Mexico Lottery Scholarship Program on low-income and minority students with an additional five years of data added to the original study. The University of New Mexico quickly realized that the New Mexico Lottery Scholarship was not accomplishing what it was intended to do. It was disproportionately attracting higher income and less academically prepared students to their campus, who were likely to have low retention rates in college. Additionally, the scholarship program did not increase college access, but rather increased enrollment at UNM by diverting students away from out-of-state institutions. UNM responded by implementing new retention programs on campus as an extension of the scholarship program once award recipients were in college.

⁶⁴ Binder, Melissa and Philip Ganderton. August 2002. "Incentive Effects of New Mexico's Merit-Based State Scholarship Program: Who Responds and How?"

The New Mexico Lottery Scholarship Effects on Enrollment Rates

Binder and Ganderton (2004) used the Integrated Postsecondary Education Data System (IPEDS) to identify total enrollment rates of recent high school graduates in New Mexico before and after the program took effect. The following table indicates that in pre-program years (1992-1996), total enrollment rates averaged 0.51 compared to program years (1998-2002), where the total enrollment rate averaged 0.57. This indicates that the program resulted in a six-percentage point increase in the college-going rate, which translates to a 12% increase. However, there was an upward trend in enrollment rates during this time period, thus part of or all of this increase may have occurred even in the absence of the program. If enrollments had continued their pre-program trends, the total enrollment rate would have increased by an estimate of six percentage points as well, though this increase would have been divided equally between in-state and out-of-state colleges.⁶⁵ This indicates that the program was successful at encouraging students to remain in New Mexico for college in the long-term, but did not expand access to college for the state's students.

The New Mexico Lottery Scholarship Effects on Minority and Low-Income Students

As mentioned earlier, New Mexico is a relatively diverse and poor state with a high number of Hispanic high school graduates from low-income families. Accordingly, the state must be cognizant of the effects of any merit-based financial aid programs on

⁶⁵ Binder, Melissa, and Phillip T. Ganderton. "The New Mexico Lottery Scholarship: Does It Help Minority and Low-Income Students?" *State Merit Scholarship Programs and Racial Inequality* (2004): 103-121. Web.

these groups. The following table depicts the percent of students receiving the Bridge Scholarship in the first semester and the NM Success scholarship at the University of New Mexico in subsequent semesters between 1998-2003. A slighter larger portion of minority students, specifically Hispanics, Native Americans and African Americans received the scholarship compared to Whites and Asians. The scholarship benefited nearly 75% of White students and 80% of minority students. In general, while students from families with higher incomes were slightly more likely to receive the scholarship, the difference is not significant.

Percent of Students Receiving Merit Scholarship (1998-2003)

	1st	Semester		4th
		2nd	3rd	
ALL	77.2	63.2	51.5	46.0
White	74.5	65.4	53.8	48.7
Minority	79.8	61.0	49.2	43.2
Hispanic	80.4	61.7	50.6	44.5
Native American	79.8	52.6	37.0	29.8
Asian	73.4	67.7	55.7	51.8
African American	80.7	56.5	40.2	34.8
Family Income				
More than \$40,000	77.4	65.6	53.9	48.4
Up to \$40,000	76.7	56.8	44.8	39.2
Up to \$20,000	75.7	57.0	43.6	37.0

Note: Scholarship receipt is calculated as a percent of all who initially enrolled at UNM. For example, 63.2% of all of those enrolling in the Fall Semester of their first year received the scholarship in their 2nd semester.

Students receive the Bridge Scholarship in the 1st semester, and the Lottery Scholarship in subsequent semesters.

Source: UNM Office of Institutional Research and Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?"

In subsequent semesters however, the percentage of students renewing their scholarships declines among all student groups. The decline is particularly prevalent among minority and low-income students. The table above depicts that between the first and second semester White students experienced a 9-percentage point fall in scholarship coverage while minority students experienced a 19-percentage point drop. Students from families with incomes greater than \$40,000 experienced a 12-percentage point drop between the first and second semester while students from families with incomes below \$20,000 experienced a 19-percentage point fall.

In the table below, the distribution of all UNM students who received the Bridging Success Scholarship is relatively similar to the distribution of all entering UNM students in the first semester. The distribution of entering students was split half and half between whites and minorities with the Hispanic population comprising a large portion of the minority group. In the first semester, minorities are slightly overrepresented among scholarship holders, however overtime their representation declines while representation of whites climbs each semester.

Disparities between students from families with varying income levels are more evident from the beginning. Over 70% of entering freshmen and first semester Bridge Scholarship recipients come from families with incomes higher than \$40,000 while only about 28% of scholarships are awarded to students from families with incomes up to \$40,000 indicating that NM Success pays 2.7 times more scholarships to higher income

students for every scholarship paid to a low-income or middle-income student. The representation of low-income students and middle-income students (below \$40,000) relative to students with higher incomes (above \$40,000) also declines with each passing semester. By the fourth semester, over 77% of lottery scholarships are held by students from families with incomes above \$40,000 and about 53% are held by White students.

All Students and Scholarship Recipients Entering UNM Between 1998-2003

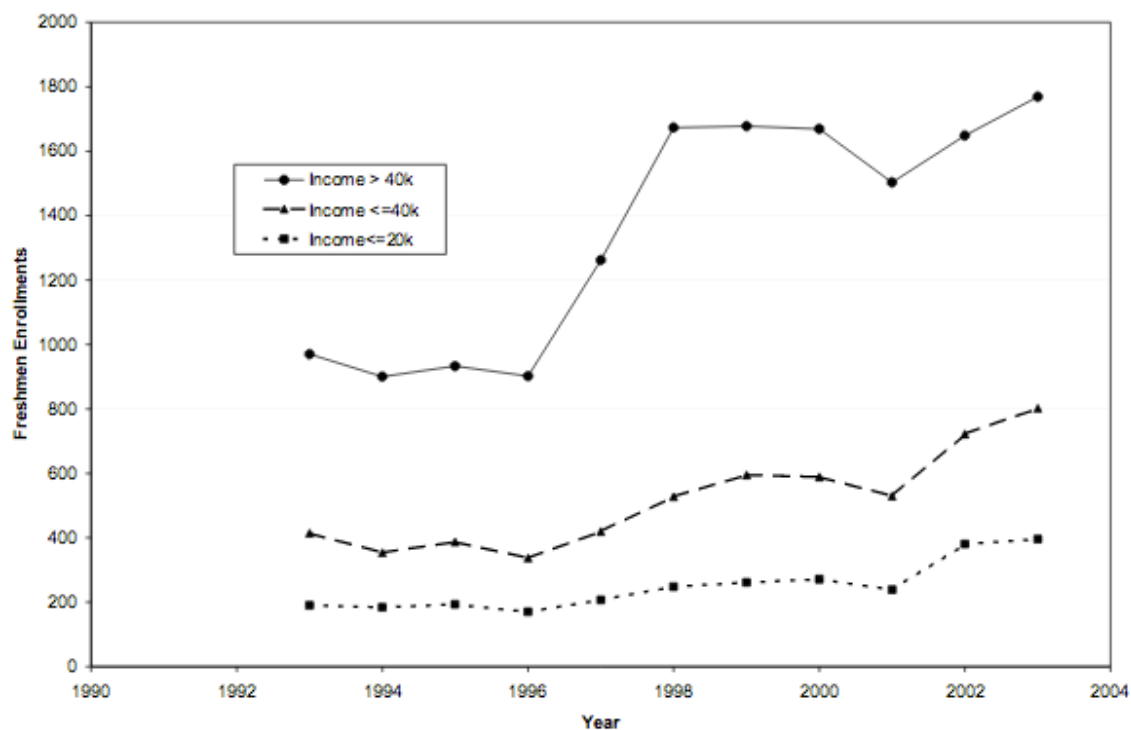
	All entrants (%)	Scholarship recipients (%)			
	1 st Semester	1 st Semester	2 nd Semester	3 rd Semester	4 th Semester
Women	57.4	57.2	61.0	61.6	61.8
Men	42.6	42.8	39.0	38.4	38.2
White	50.0	48.2	51.7	52.5	53.3
Minority	50.0	51.8	48.3	47.5	46.7
Hispanic	38.9	40.5	37.9	38.3	37.8
Native American	5.0	5.2	4.2	3.3	3.0
Asian	3.8	3.7	4.1	4.0	4.2
African American	2.4	2.5	2.1	1.9	1.8
Family income					
More than \$40,000	72.5	72.7	75.3	76.8	77.3
Up to \$40,000	27.5	27.3	24.7	23.2	22.7
Up to \$20,000	13.1	12.8	11.8	10.6	10.1

Source: UNM Office of Institutional Research. Data extracted by Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?"

Ultimately, the program did not target its funds and resources to underserved students. Despite these rather dismal statistics, it is however undeniable that the program has prompted more low-income and minority students to enroll at the University of New Mexico. When comparing trends for the pre-program years and projecting it into the program years, minority representation in the UNM student body

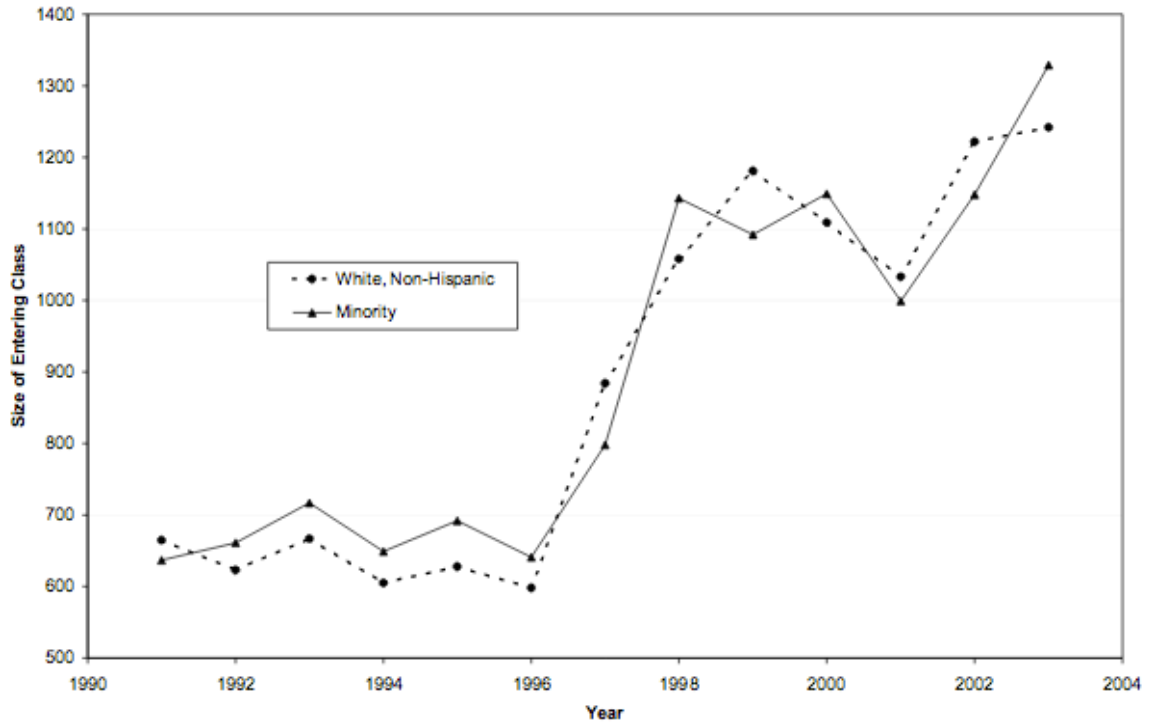
fell by five percentage points. Furthermore, while enrollment rates for students from families with incomes greater than \$40,000 jumped substantially, low-income students gained representation by three percentage points compared to the distribution that would likely not have developed without the program. The response was particularly pronounced for minority students whose enrollment at UNM was on par with enrollment for non-minority students. The increase was less palpable for low-income students, however New Mexico's Lottery Scholarship Program did induce more of students from lower SES to enroll at UNM. These observations are depicted in the following graphs.

UNM Enrollments by Family Income (1991-2003)



Source: UNM Office of Institutional Research and Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?"

Minority and Non-Minority Enrollments at UNM (1991-2003)



Source: UNM Office of Institutional Research and Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?"

The University of New Mexico Retention Program

Education officials at the University of New Mexico understood that the university could face a retention problem among its incoming Lottery Scholarship recipients. Studies conducted by Binder and Ganderton (2002, 2004) demonstrated that the program attracted the type of student who was likely to be unprepared to meet the

academic demands of a public research university. From a university administration standpoint, retention is an extremely important measure of the efficiency of merit-based financial aid programs for legislators and taxpayers to use in an era of accountability and tight budgets. It is also the foundation upon which universities are able to survive because while an increase in enrollment rate may be seen as a positive, universities could not subsist if their students do not return. To address this, UNM launched a series of programs specifically targeting retention through increased college preparation for students early on in their college career.⁶⁶ All programs initiated fell under the umbrella title of the Freshmen Academic Choices (FAC), which included two principle programs. The first was the Honors program, which was designed for students with high, ACT and/or SAT scores and strong high school academic records. The second was labeled Introductory Studies courses, a series of remedial courses that were required for students with low ACT scores in Mathematics, English or both. Other programs that were introduced at the university included Freshmen Learning Communities where students placed in small groups took two courses together, Freshmen Interest Groups for students with shared interests and Living and Learning Communities for students in the college dormitories. UNM experienced a 25-30% increase in new freshmen enrollment after NM Success was introduced. These retention initiatives were also designed to address the ever growing issues caused by the rapid and large increases of freshmen enrollment at UNM due to the Lottery Scholarship program.⁶⁷

⁶⁶ Dennison, C., Lichtenstein, M., & Oakes, L. (2002). Successes and failures of freshman learning communities. UNM Office of Institutional Research, University of New Mexico.

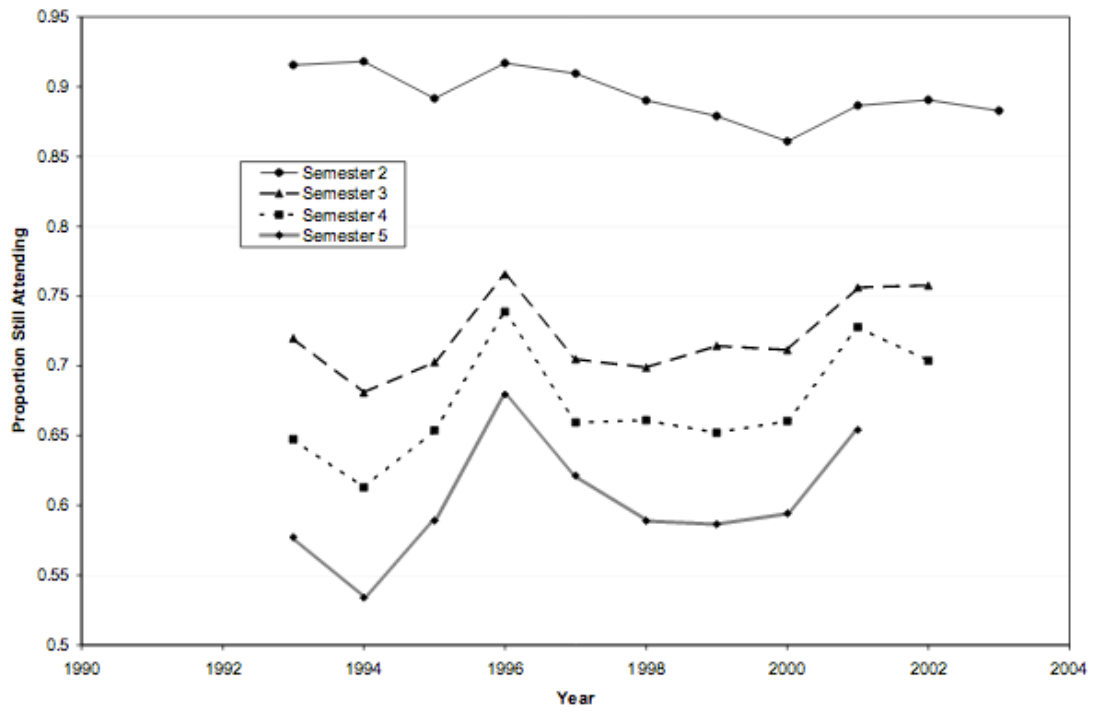
⁶⁷ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 104.

Retention Rates Among Low-Income and Minority Students

This section will examine whether low-income and minority students who enrolled at UNM were more likely to remain in college and graduate as a result of the Lottery Scholarship program which required students to maintain a 2.5 cumulative GPA in order to continue receiving financial assistance. Retention rates in the second semester among minority freshmen entering UNM under the program and minority freshmen prior to the program fell by 2% from 90 to 88 percent. In subsequent semesters however, retention remains steady indicating that the program was effective at keeping students who persisted on to the second semester. For students from families with incomes below \$40,000, trends in retention rates tell a similar story. Between the first and second semester, retention rates are lower in the program period than in the pre-program period, falling from 91 to 88 percent. However, in subsequent semesters, retention rates are slightly higher for program students. Thus, while the first semester of college for these students posed as an obstacle for many, once students made it through this initial hurdle, they were more likely to persist through college. The graphs below depict retention rates for low-income and minority students from 1991-2003, several years before and after the Lottery Scholarship program took place. One important note with these graphs is that in 1998 (the first full year of the program), retention rates hit a low point. In succeeding years however, there is a clear upward trend in retention and this is likely due to the series of freshmen programs introduced by UNM.⁶⁸

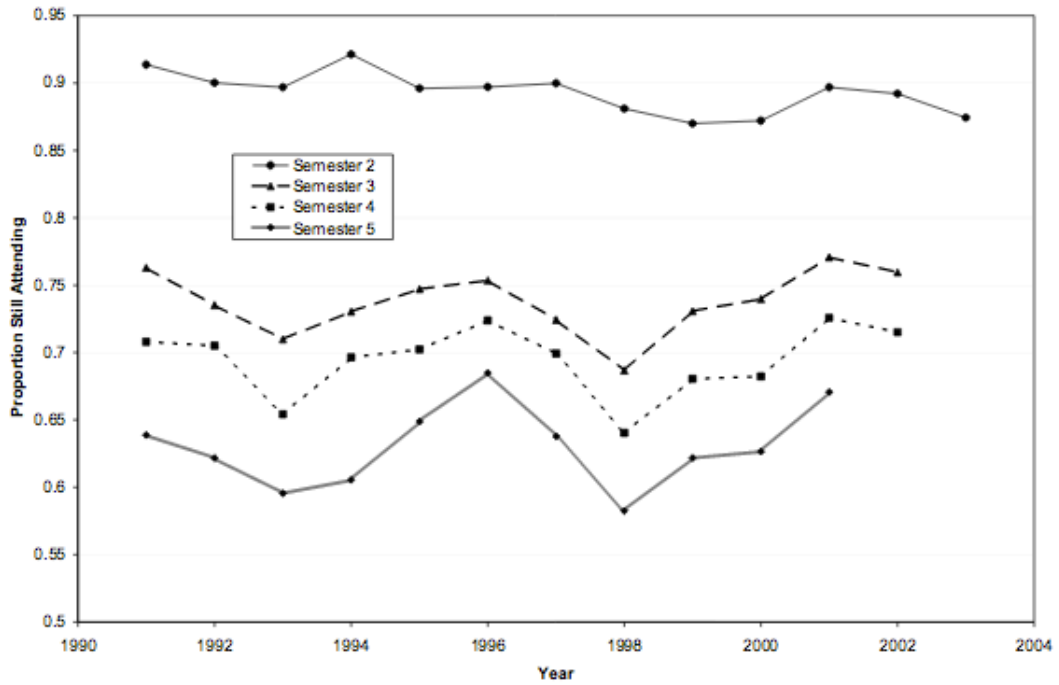
⁶⁸ Binder, Melissa, and Philip T. Ganderton. "The New Mexico Lottery Scholarship: Does it Help Minority and Low-Income Students?" 104.

Attendance for Low-Income Students (1991-2003)



Source: UNM Office of Institutional Research. Data extracted by Binder, Melissa, and Phillip T. Ganderton. "The New Mexico Lottery Scholarship: Does It Help Minority and Low-Income Students?" *State Merit Scholarship Programs and Racial Inequality* (2004): 103-121. Web.

Attendance for Minority Students (1991-2003)



Source: UNM Office of Institutional Research. Data Extracted by Binder, Melissa, and Phillip T. Ganderton. "The New Mexico Lottery Scholarship: Does It Help Minority and Low-Income Students?" *State Merit Scholarship Programs and Racial Inequality* (2004): 103-121. Web.

Conclusion

It is promising that NM Success differs from so many of the merit-based financial aid programs because this suggests that New Mexico's policymakers were conscious of the state's low-income, high minority population and likely understood that Georgia HOPE's eligibility requirements would have put the state's neediest students at a disadvantage. The New Mexico Lottery Scholarship serves as a beneficial program to examine alongside Georgia HOPE because the program has one of the lowest academic eligibility criteria of any state sponsored merit-based financial aid program. The low GPA requirement addresses a primary criticism with merit-based scholarships and the disproportionate impact that such requirements have on students of lower socioeconomic status.

New Mexico was also the only state that based eligibility requirements off of *college* GPA, as opposed to *high school* GPA. In a sense, NM Success can be said to be more "fair". Ultimately what policymakers hope is that when the state is awarding full tuition scholarships to students, the outcome will be that those students will perform well academically in college and graduate with a diploma. Merit-based scholarships have been the center of an ongoing debate about whether having a strong high school GPA and standardized test scores translate to success in a college environment. By basing scholarship eligibility requirements off of college GPA, the state is asking the student to essentially "prove" that they are able to meet the academic demands required of a four-year university prior to awarding them a merit-based scholarship.

It is both ironic and unfortunate that the New Mexico Lottery Scholarship program, in its initial years, attracted a larger proportion of high income, lower-achieving students. Despite having a lower academic requirement and simplified eligibility process, the scholarship still benefited a greater number of students of higher socioeconomic status. However, the program was successful at attracting an equal number of minorities and whites to the University of New Mexico. These outcomes were likely due to the fact that the scholarship program did not have an income cap and thus, similar to Georgia HOPE, was open to any and all students. Additionally, the lower GPA requirement attracted lower achieving students who were less prepared for the rigor of a university curriculum.

The outcome of the New Mexico Lottery Scholarship raises another issue. Proponents of Georgia HOPE and other merit-based financial aid programs argue that high merit requirements pushes students to take the steps necessary to prepare for college. For instance, recall that the University of Georgia had incoming freshmen with higher GPAs and SAT/ACT scores after HOPE was implemented. HOPE was also revised in later years to include only core, college preparatory courses in calculating GPA. Then Georgia scaled back on the HOPE scholarship and introduced the Zell Miller Scholarship, which required a 3.7 GPA and covered full tuition. Perhaps the main disadvantage with a lower academic criteria for NM Success and basing scholarship qualifications on college GPA is that it assumes that there is a disconnect between high school academics and college academics and undermines the value of

college preparation. The structure of NM Success did not encourage students to take the steps necessary in high school to ensure that they were prepared for college.

Nevertheless, the implementation of a program with low academic standards in a state that has a large minority and low-income population has shown some potential to aid more disadvantaged students in getting to college. While the University of New Mexico experienced a drop in student retention initially due to the lottery scholarship program, university administrators responded quickly by implementing various freshmen initiatives to address the retention problem early on in a student's college career. These programs had a great influence on retaining the low-income and minority students that came to UNM as a result of NM Success. As a result, retention rates have climbed since then.

Chapter 4: The Indiana Twenty-first Century Scholars Program

With the explosion of merit-based financial aid programs following Georgia HOPE, state policymakers generally overlooked another financial assistance program that altered the way in which we viewed the purpose of merit-based financial aid. In 1990, Governor Evan Bayh of Indiana introduced the Twenty-first Century Scholars (TFCS) Program in his State of the State address. The program was initially funded by grants from the Lily Endowment fund and later received support and funding from the legislature.⁶⁹ The program was modeled after businessman, Eugene Lang's "I Have a Dream Foundation", a charitable trust founded in 1981. "I Have a Dream" began when Lang was asked to address a class of graduating sixth graders at his old elementary school located in East Harlem. Lang intended to tell the students, "Work hard, and you'll succeed;" however just before delivering his speech, Lang was told that three-quarters of the school's children would likely never complete high school. This prompted Lang to make an impromptu change to his speech where he promised the class of sixth graders full college tuition if they persisted and graduated from high school. The power of Lang's promise struck a chord among the group of 12 year olds. Of these students, over 90% have earned their high school diploma or GED and 60% have pursued some form of higher education.⁷⁰ While not all students accomplished academic success, many have gone on to attend prestigious institutions and nearly all have gone on to attain fulfilling careers. Among this former class of underprivileged

⁶⁹ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

⁷⁰ "History." *I Have a Dream Foundation*. 28 Apr. 2016. Web.
<<http://www.ihaveadreamfoundation.org/who-we-are/history/>>.

youths are corporate attorneys, a Vice-President at J.P. Morgan, a dentist, a New York City cop, a music promoter, a lab technician, a computer specialist and teachers.⁷¹ Currently, the program serves to motivate and empower students from low-income communities to reach their educational and career goals. The initiative provides long-term mentoring, tutoring and enrichment programs along with financial assistance for college tuition.⁷²

Inspired by Lang's program, the state of Indiana created a program with the similar underlying goal of raising educational aspirations and attainment among low and moderate-income students paired with financial assistance. Stan Jones, Indiana Commissioner for Higher Education, stressed that it was not just about the money (financial aid), but also about "raising aspirations, acclimating students to the concept of going to college, and helping them prepare."⁷³ TFCS has often been called one of the most progressive need-based state scholarship programs in the country. At a time when many states—Georgia, Florida, New Mexico, Louisiana, Kentucky, South Carolina, West Virginia and most recently Arkansas—have shifted their policies towards merit-based financial aid, Indiana has remained steadfast to their commitment for need-based financial aid. However, while Indiana's Twenty-first Century Scholars program is often denoted as a financial aid program, there is a major and crucial academic component that makes it both similar and dissimilar to merit-based financial aid. Twenty-first

⁷¹ Leung, Rebecca. "I Have A Dream: College Tuition." CBS News. Web. 20 May 2004. <<http://www.cbsnews.com/news/i-have-a-dream-college-tuition/>>.

⁷² St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

⁷³ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

Century Scholars can be thought of as a financial guarantee program. It is an ideal financial aid program to examine because it contains many of the key elements of state financial aid programs that public policymakers are currently considering. It represents a shift away from traditional forms of merit-based financial aid and provides a new and important model for other states to consider. It is different from Georgia HOPE and other programs of this kind because instead of offering scholarships based off of whether students meet certain academic eligibility requirements, the program utilizes the promise of financial assistance in the form of college tuition to encourage and motivate students to take the steps necessary to prepare for college.

The Indiana Story

A large part of the Indiana story begins with Indiana's progress of improving college accessibility in the years following 1992, when Twenty-first Century Scholars was created. This section provides an overview of college enrollment rates as well as education revenue spent per FTE in Indiana Public Colleges.

In 1992, Indiana's public high school graduation rate was 4.8% higher than the national average. However, only 50.5% of Indiana high school graduates enrolled in college the following year, which was 3.8% below the national average. By 2000, however, 60% of high school graduates enrolled in college, which surpassed the national average by 3.3%.

**Access Indicators for Indiana: Percentage of High School Graduates
Enrolling in College Compared to U.S. Average (1992-2000)**

Percentage					
	1992	1994	1996	1998	2000
Public High School Graduation Rate (Indiana)	76.0	71.3	70.1	70.8	68.2
Public High School Graduation Rate (U.S. Avg.)	71.2	70.0	67.9	67.8	67.1
College Enrollment rate of HS graduates (Indiana)	50.5	55.0	57.9	60.5	60.0
College Enrollment rate of HS graduates (U.S. Avg.)	54.3	57.1	58.5	57.2	56.7

Source: St. John, Edward P. "The Impact of Financial Aid Guarantees on Enrollment and Persistence: Evidence From Research On Indiana's Twenty-First Century Scholars and Washington State Achievers Program." *State Merit Scholarship Programs and Racial Inequality: The Civil Rights Project at Harvard University* (2004): 125-140.

During the same time period, state appropriations per full-time equivalent (FTE) student followed an interesting trend. State funding for the education system began to decline both in Indiana as well as throughout the rest of the country. Even more so than most states, Indiana fell into the pattern of shifting the source of public college funding from the state to students and their families.

**Educational Revenue per FTE in Indiana Public Colleges,
Compared to the U.S. Average (1992-2000)**

Dollars					
	1992	1994	1996	1998	2000
Adjusted Per FTE State & Local Appropriation for Public System, in 2000 Dollars (Indiana)	6,399	6,397	6,984	6,839	7,057
Adjusted Per FTE State & Local Appropriation for Public System, in 2000 Dollars (U.S. Avg.)	6,358	6,579	6,608	7,066	7,495

Source: St. John, Edward P. "The Impact of Financial Aid Guarantees on Enrollment and Persistence: Evidence From Research On Indiana's Twenty-First Century Scholars and Washington State Achievers Program." *State Merit Scholarship Programs and Racial Inequality: The Civil Rights Project at Harvard University* (2004): 125-140.

The undergraduate in-state tuition and fees for public colleges also increased from \$2,845 in 1992 to \$3,496 in 2000 and remained consistently higher than the national average. A notable trend in Indiana during this time period was the amount allocated towards need and non-need based grants. Need-based grant aid increased at a slightly faster rate than the national average from \$408 per FTE (which was \$64 above the national average) to \$515 per FTE (\$169 above the national average). However, there was a considerable gap between merit-based aid per FTE in Indiana and the U.S. average with Indiana having a substantially lower amount allocated towards merit-based grants. Between 1992 and 2000, Indiana increased merit-based grant spending by \$4 while the U.S. increased merit aid spending by \$76.

**Tuition Charges and State Grants (Need and Merit-Based) per FTE
in Indiana, Compared to the U.S. (1992-2000)**

Dollars					
	1992	1994	1996	1998	2000
Adjusted Undergrad In-State Tuition and Fees for Public System in 2000 Dollars (Indiana)	2,845	3,138	3,467	3,468	3,496
Adjusted Undergrad In-State Tuition and Fees for Public System in 2000 Dollars (U.S. Avg.)	2,333	2,540	2,661	2,741	2,728
Adjusted Per FTE Need-Based Undergrad State Grant Amount, in 2000 Dollars (Indiana)	408	466	503	588	515
Adjusted Per FTE Need-Based Undergrad State Grant Amount, in 2000 Dollars (U.S. Avg.)	344	404	397	419	366
Adjusted Per FTE Merit-Based Undergrad State Grant Amount, in 2000 Dollars (Indiana)	3	3	8	8	7
Adjusted Per FTE Merit-Based Undergrad State Grant Amount, in 2000 Dollars (U.S. Avg.)	38	60	70	95	114

Source: St. John, Edward P. "The Impact of Financial Aid Guarantees on Enrollment and Persistence: Evidence From Research On Indiana's Twenty-First Century Scholars and Washington State Achievers Program." *State Merit Scholarship Programs and Racial Inequality: The Civil Rights Project at Harvard University* (2004): 125-140.

These trends suggest that by targeting finances towards need-based aid (which benefit a higher proportion of low-income students) rather than merit-aid (which typically benefits a higher proportion of middle to upper income students), Indiana was able to greatly improve the number of high school graduates who enrolled in college, thereby expanding college accessibility. At the same time, Indiana was also able to lower the appropriations for FTE in 2000 (Indiana spent \$7,057 while the U.S. average was \$7,495). Furthermore, recall from the tables shown above that Indiana spent only \$169 more on need-based grants in 2000 and \$107 less on merit-based grants, indicating a net savings for taxpayers.⁷⁴

Indiana Twenty-first Century Scholars: Program Overview

Prior to the creation of the program, Indiana's legislators had a fundamental discussion about how to define realistic expectations for low-income students.⁷⁵ These students differed from their middle and upper income peers primarily because of their educational aspirations and presumptions. Many low-income students had not previously considered college and traditionally came from households with parents who had never attended college. As a result, these youths were generally less likely to take

⁷⁴ St. John, Edward P. "The Impact of Financial Aid Guarantees on Enrollment and Persistence: Evidence From Research On Indiana's Twenty-First Century Scholars and Washington State Achievers Program." *State Merit Scholarship Programs and Racial Inequality: The Civil Rights Project at Harvard University* (2004): 125-140. Web. <<https://www.nmefoundation.org/getmedia/78d0251f-ee9d-4410-9645-ac16392be40c/heller-marin-state-merit-scholarship-2004>>.

⁷⁵ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

the steps necessary to prepare for college, had lower grade point averages and possessed less knowledge about the resources available to them.

The principle mission of TFCS is to increase college accessibility and completion rates among the state's low-income students. The program can be thought of as a contract between middle school 8th graders, who make a pledge to take the necessary steps to prepare for college, and the state which promises to provide scholarships and grants sufficient to cover in-state tuition at an Indiana public college or university or an in-state private college in return. The initial eligibility requirement for TFCS is that a student must qualify for the federal Free and Reduced Lunch program, the primary indicator that the student is from a low-income family in K-12 education.⁷⁶

Once qualifications for Free and Reduced Lunch are met, students must make a pledge to the Twenty-first Century Scholars Program:

I pledge to graduate with a minimum of a Core 40 diploma from a state-accredited Indiana high school. I will complete the Scholar Success Program that helps me stay on track for college and career success. I will achieve a cumulative high school GPA of at least 2.5 on a 4.0 scale. I will not use illegal drugs or alcohol or commit a crime or delinquent act. I will apply for admission to an eligible Indiana college my senior year* and apply on time for student financial aid. I aim to succeed.⁷⁷

Once enrolled in college, students must:

- Maintain Satisfactory Academic Progress (SAP) standards established by each college.

⁷⁶ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

⁷⁷ "Take the Pledge." *21st Century Scholars*. Indiana Commission for Higher Education, Web. <<http://scholars.in.gov/>>.

- Complete 30 credit hours each year in college to stay on track toward earning a degree on time.
- Refrain from using illegal drugs, commit a crime or delinquent act, or consume alcohol before reaching the legal drinking age.

The state also makes a pledge to students to:

- Provide grants equaling tuition and fees at any Indiana public college or university or private college. These grants are awarded in addition to federal need-based grants as a ‘top off’.
- Provide support services for Scholars, including tutoring, mentoring, college visits and activities for parents.
- Distribute additional information about higher education to students and parents.
- Encourage Scholars to pursue a college-preparatory curriculum.⁷⁸

Indiana’s state grant program indexes its award amounts on the type of high school diploma received. Throughout the 1990s, the state made great strides to offer college-preparatory programs in their high schools and offers incentives to students and schools to increase participation in these programs. One of the most notable steps Indiana took was creating the Core 40 curriculum in 1994-95 and the Honors diploma the year prior to. The Core 40 curriculum outlined the hours of science and math

⁷⁸ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

required to gain admissions at a four-year college (Indiana Education Policy Center, 1994) while the Honors diploma required an additional year of math, science and language. The state awarded schools with incentive funding in correlation with the number of Honors diploma recipients the school graduated. In 1998, the state aligned its student grant programs with these diplomas. Honors diploma recipients received the maximum need-based award amount, Core 40 recipients received 90% of the maximum and those who graduated with regular diplomas received 80% of the maximum award amount.⁷⁹

Twenty-first Century Scholars however, are awarded an amount higher than the maximum need-based amount, topping off the normal state grant. While the maximum need-based award is indexed to the previous year's tuition, TFCS awards are indexed to the current year's tuition in which a Scholar enters an institution. Thus, Scholars who uphold their end of the contract receive the normal need-based state grant as well as a TFCS scholarship that "tops off" their state award.⁸⁰

Support Services

Indiana Twenty-first Century Scholars goes substantially beyond providing financial assistance to low-income students. The program also offers an extensive array of services located in regional support centers around the state to both students and

⁷⁹ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

⁸⁰ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

parents that are meant to provide academic support as well as provide information about the high school to college pipeline. Services include financial aid workshops for students and parents, campus visits and tutoring. Parental services are designed to enable and educate low-income parents to take a proactive role in their child's college preparation and educational choices. Along the same lines, offering support services keeps the prospect of higher education in the minds of students and informs them of what it takes academically to prepare for college. A comprehensive list of services provided by these regional centers as well as the number of beneficiaries are shown in the following table.

Service	Total number served at 13 centers**	Average number served per center
Workshops for students: Career, drug prevention, financial aid or SAT preparation	33,823	2,602
Mentoring: Ongoing one-on-one, group or professional relationship	9,795	753
Tutoring or academic support: Math, English, other subjects, or college entrance exams (more ongoing or hands-on than a one-time session)	2,424	186
Social/cultural events: Scholar pledge ceremony, cultural events, holiday celebrations and social/recreational events	7,832	602
Career counseling/services: Academic advising, job site visits or college student shadowing	6,469	498
Campus visits/tours	2,881	222
Summer academic day/overnight camps	1,060	81
Service learning volunteer activities	1,166	90
Mailings for students	31,627	2,433
Total number of services Provided to students	97,333	7,487
Workshops for parents: Financial aid, college prep, career choices, Core 40/academic honors, ISTEP/SAT/ACT information, study skills	3,647	280
Ongoing parent support: Conferences, support groups and financial aid guidance	3,266	251
Total number of services provided to parents	6,913	532

Source: Survey of regional coordinators Winter 2001-02 conducted by St. John, Edward P and published in "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

University of Michigan Longitudinal Study on Effectiveness of Twenty-first Century Scholars

Edward St. John, a Professor of Education at the University of Michigan, along with several research assistants, conducted eight studies of four sets of student cohorts (1999, 2000, 2004 and 2005) and measured the outcomes produced by the Twenty-first Century Scholars program on these students. The researchers constructed a longitudinal database of a series of students in 9th grade and tracked them through a six-year college completion rate. It is perhaps one of the most comprehensive sets of studies done on the Twenty-first Century Scholars program and has informed policymakers of the impact of the program on college enrollment and persistence among underserved students.

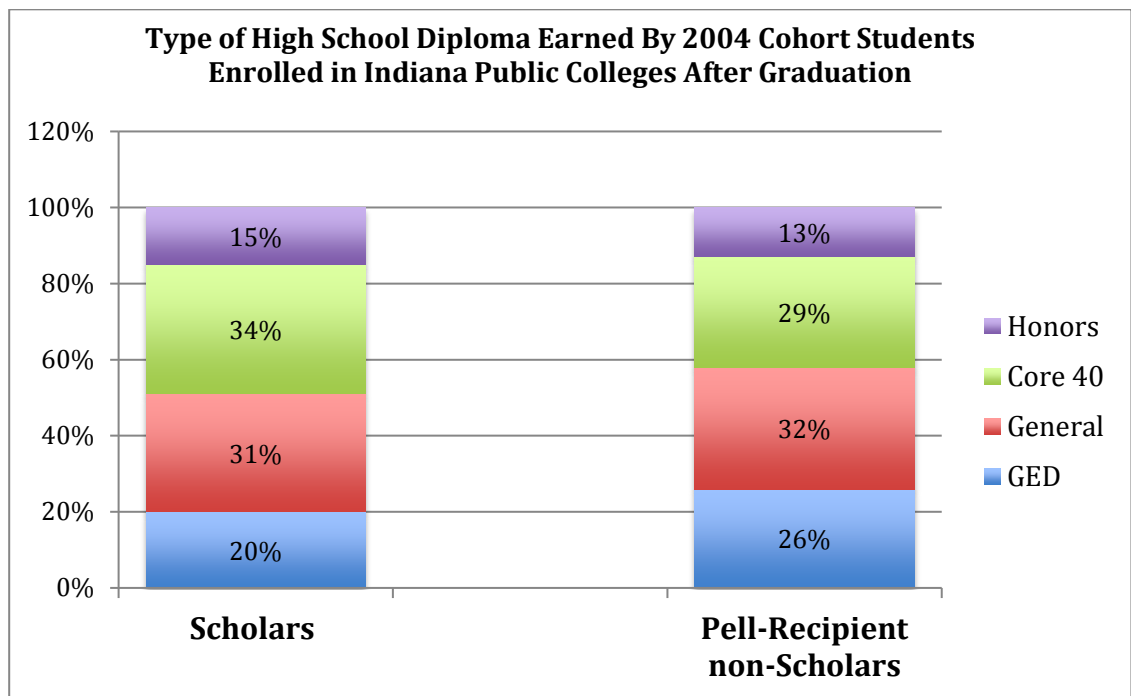
Twenty-first Century Scholars Effect on Academic Preparation

One of the intended policy outcomes of the TFCS program was to encourage and increase the proportion of low-income students pursuing a college preparatory curriculum. College preparedness is a central part of these financial aid programs since students must be prepared to meet the academic demands that college courses require in order to persist through to earning their diploma. St. John identified indicators of preparation as: Completion of an Honors diploma or a Core 40 diploma compared to a Regular diploma and completion of Calculus or Trigonometry/Pre-Calculus compared to completion of lower math standards.⁸¹

⁸¹ St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." *Lumina Foundation for Education* (2008)

Preparation Indicator: Diploma Type

Using Twenty-first Century Scholars 2004 cohort as the treatment group and Pell Grant recipients (federal need-based aid program) as the control group, St. John was able to compare Scholars to a sample of cohorts from a similar socioeconomic status. Pell Grant recipients would likely have qualified for the TFCS program, but for whatever reason chose not to take the pledge as 8th graders. St. John found that there was a positive association with being a Scholar and receiving an Honors and Core 40 diploma as opposed to a regular diploma when family socioeconomic status (SES) was considered.⁸²



Source: St. John, Edward P. "Program Outcomes: The University of Michigan Studies." Lumina Foundation Indiana's Twenty-first Century Scholars program: A statewide story with national implications (2008)

⁸² St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." *Lumina Foundation for Education* (2008)

One caveat to these results however is that there were disparities with diploma earned and race/ethnicity. Latinos and African American students were less likely than white students to earn an Honors diploma. Additionally, African American students were less likely to receive a Core 40 diploma than whites. Asian American students were more likely than whites to receive an Honors diploma. Since race/ethnicity tends to be positively related to income levels, these results indicate that disparities in award receipt among race continues to be a factor that has not yet been solved by Indiana's education reforms.⁸³

One substantial finding from this study was that when Scholars attended schools that had a larger concentration of minority students, the likelihood that the low-income students would receive an Honors or Core 40 diploma increased in relation to this. This discovery has strong implications for policy makers because it suggests that having educational policies that require high schools to offer advanced degree programs that are college preparatory in nature as well as providing additional funding as an incentive for these schools to graduate students receiving these diplomas had a positive impact on college access.⁸⁴ Incentive funding works effectively in these instances, because schools with higher concentrations of minority as well as low-income pupils are also generally less well-funded schools located in lower-income neighborhoods.

⁸³ St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." *Lumina Foundation for Education* (2008)

⁸⁴ St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." *Lumina Foundation for Education* (2008)

Preparation Indicator: Completion of Advanced Math Courses

While the requirements to earn an Honors or Core 40 diploma do not explicitly include Calculus or pre-Calculus courses, many four-year degree programs, particularly in science, technology, engineering and math (STEM) fields, require strong preparation in advanced math courses. The academic rigor of STEM fields generally requires more preparation in math courses. This has important implications for both low-income students who have an interest in these fields as well as Indiana, since many states currently place an emphasis on the STEM field as a criterion for having a strong workforce that will be ready to compete with the global economy (Commission on the Skill of the American Workforce, 2007).⁸⁵ While Indiana students have made improvements in mathematics and science, the state still has a large achievement gap in the percentage of students demonstrating proficiency in math. According to the U.S. Department of Education Center for Education Statistics (NCES) only 45% of U.S. high school graduates are prepared for college level math courses. One of the primary indicators of success in college math is taking AP courses in high school; however, only 12% of Indiana students enroll in AP math courses. Furthermore, of the students who do pursue higher education, only 11.9% of majors are in the STEM fields. Of these students, 64% require remedial courses in order to catch up with college level courses. This puts a burden on Indiana, costing the state \$16,225,502 each year (Change The Equation, 2012)⁸⁶.

⁸⁵ St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." *Lumina Foundation for Education* (2008)

⁸⁶ "Indiana's Science, Technology, Engineering and Mathematics (STEM) Initiative Plan." *Indiana Framework STEM Education Indiana Department of Education*. Web. <http://www.doe.in.gov/sites/default/files/ccr/indiana-framework-stem-educationv2.pdf>.

Thus, it is important to examine whether TFCS influenced preparation in high school advanced math courses for low-income students. St. John and colleagues found that there was a positive association with being a Scholar and taking both Calculus and Trigonometry/Pre-Calculus. Scholars in the 2000 cohort had a 29% greater likelihood of completing Calculus as opposed to stopping before Trigonometry/Pre-Calculus.⁸⁷ When race/ethnicity was brought into the equation, the Scholars program appeared to have a positive association with access to advanced math.⁸⁸ This indicates that the TFCS program provides minority students with access to advanced curriculum that encourages them to take additional steps to prepare for college.

However, similar to diploma type earned, disparities among race/ethnicity still existed. African American and Latino students were found to be less likely than white students to enroll in Calculus. Additionally, low-income students also were less likely to enroll in either Calculus or Trigonometry/Pre-Calculus. The influences of social class was prevalent here where students with parents who had some college education as opposed to only a high school diploma were more likely to enroll in Calculus. Lastly, attending a high poverty school decreased the odds of enrolling in Trigonometry/Pre-Calculus. African American students were less likely to have access to Trigonometry/Pre-Calculus than their white peers. These results imply that while Indiana made remarkable progress to expand access to advanced curriculum, they were

⁸⁷ St. John, Edward P. "Program Outcomes: The University of Michigan Studies." Lumina Foundation Indiana's Twenty-first Century Scholars program: A statewide story with national implications (2008)

⁸⁸ St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." Lumina Foundation for Education (2008)

not able to overcome barriers to access to advanced math courses for the lowest-income schools.⁸⁹

Literature Review of Longitudinal Study on Twenty-first Century Scholars Effect on College Enrollment and Persistence Accounting for Self-Selection

Toutkoushian, 2015 broadened the scope of St. John's study to track students who initially enrolled in the TFCS program and examined the effectiveness of TFCS on college enrollment rates. It differs from St. John's study in that St. John and colleagues used cohorts of students who were affirmed Scholars. This means that these students had taken the Scholars pledge and successfully met all requirements of the TFCS contract including graduating from high school, applying for financial aid and applying to at least one institution among other things.

In 2002, St. John conducted a study on the impact of TFCS on college enrollment and persistence and found that there were several common factors among students that increased the odds of enrollment in a public four-year college. Among these factors were having A grades in middle school and aspiring to attain a four-year degree.⁹⁰ It is possible that these students already possessed unobservable characteristics such as aspirations to go to college or the motivation to sign up for a

⁸⁹ St. John, Edward P. "Educational Opportunities in Indiana: Studies of the Twenty-first Century Scholars Program Using State Student Unit Record Data Systems." *Lumina Foundation for Education* (2008)

⁹⁰ St. John, Edward P. "Meeting the Access Challenge: The Indiana Twenty-first Century Scholars Program." *Lumina Foundation for Education* 4.4 (2002)

program such as TFCS.⁹¹ Toutkoushian's study on the other hand aims to identify whether the TFCS program influenced a low-income student who may not have already had the motivation and ambition to go to college, to take the steps necessary to prepare for college and increase their higher education aspirations. Toutkoushian conducted a longitudinal study that examined 9th graders who had signed up for the Scholars program and compared them to non-Scholars.

The following table depicts college enrollment behavior of TFCS participants versus non-TFCS participants. On average, Scholars were just slightly more likely than non-Scholars to enroll in college. However, TFCS participants were 5.3 percentage points more likely than non-participants to enroll at a public in-state two-year institution. Scholars enrolled at public in-state institutions at a slightly higher rate, exceeding non-Scholars by only 0.5 percentage points. Similarly, Scholars were slightly less likely than non-Scholars to enroll at a private in-state institution, with a difference of just 0.7%. In a sense, the TFCS program can be said to have had an equalizing effect among Scholars and non-Scholars. Remember that TFCS eligibility is dependent on a student being from a low-income background (qualifying for Free or Reduced Lunch). Thus, Scholars are likely to be systematically different from non-Scholars in socioeconomic status, race/ethnicity, family structure, and education level of parents amongst many other things. College enrollment gaps between low-income youths and their higher income peers have been a major concern among education policymakers.

⁹¹ Toutkoushian, Robert K., et al. "The Effect of Participating in Indiana's Twenty-first Century Scholars Program on College Enrollments." *The Review of Higher Education* 39.1 (2015): 59-95. *Project Muse*.

The fact that there were negligible differences between enrollment rates for public and private in-state institutions suggest that TFCS had an equalizing effect on participants and influenced low-income students to beat the odds in pursuing higher education. A follow up study was conducted and found that TFCS recipients who successfully completed the program did not differ significantly in degree attainment over the course of four years from students who did not receive student aid. Non-aid recipients may be comprised of some low-income students who were eligible for the program but did not take the pledge and students who were ineligible because they did not have financial need (higher income students).⁹²

Note: We only focus our attention on in-state institutions because TFCS awards cannot be used at an out-of-state college, thus Scholars are more inclined to attend a college or university in state.

⁹² St. John, Edward P. "Postsecondary Encouragement and Academic Success: Degree Attainment By Indiana's Twenty-First Century Scholars." *Lumina Foundation for Education* 259-294.

Scholars vs. Non-Scholars Enrollment Rate By Institution Type

	<i>TFCS Participant</i>	<i>Non-TFCS Participant</i>	<i>Difference</i>
<i>Any Institution</i>	63.3%	62.3%	+1.0%
<i>Two-Year Institution</i>	22.5%	18.0%	+4.5%
<i>Public, In-State</i>	20.1%	14.8%	+5.3%
<i>All Other</i>	2.4%	3.2%	-0.8%
<i>Four-Year Institution</i>	40.8%	44.4%	-3.6%
<i>Public, In-State</i>	30.9%	30.4%	+0.5%
<i>Public, Out-of-State</i>	1.7%	3.0%	-1.3%
<i>Private, In-State</i>	6.0%	6.7%	-0.7%
<i>Private, Out-of-State</i>	2.2%	4.3%	-2.1%

Note: Sample size used = 42,227

Percentages may not add up to 100% due to rounding by authors.

Source: Toutkoushian, Robert K., et al. "The Effect of Participating in Indiana's Twenty-first Century Scholars Program on College Enrollments." *The Review of Higher Education* 39.1 (2015): 59-95. *Project Muse*.

The following table depicts the demographics of students that participated in the TFCS program and non-participants. Scholars were more likely than non-Scholars to be female, non-Hispanic black, live in a single-parent household with only their mother, have parents with no college education and/or have lower middle school grades. These characteristics are important in relation to the above table depicting college enrollment rates since these factors would tend to reduce the likelihood of students enrolling in college.

Scholar vs. Non-Scholar Demographics

	<i>TFCS Participant</i>	<i>Non-TFCS Participant</i>
<i>White</i>	66.8%	82.0%
<i>Black</i>	18.1%	5.0%
<i>Asian</i>	0.6%	0.9%
<i>Hispanic</i>	3.6%	1.9%
<i>Other Race</i>	10.9%	10.2%
<i>Live w/ Both Parents</i>	38.0%	60.7%
<i>Live w/ Mother</i>	31.9%	12.7%
<i>Live w/ Other</i>	30.2%	26.6%
<i>Parent Ed: No College</i>	57.7%	47.3%
<i>Parent Ed. Unknown</i>	22.8%	17.5%
<i>Parent Ed: College</i>	19.5%	35.2%
<i>Middle School GPA</i>	2.89	2.93
<i>Median Income</i>	\$41,126	\$50,023

Note: Sample size used = 42,227

Percentages may not add up to 100% due to rounding by authors.

Source: Toutkoushian, Robert K., et al. "The Effect of Participating in Indiana's Twenty-first Century Scholars Program on College Enrollments." *The Review of Higher Education* 39.1 (2015): 59-95. *Project Muse*.

Purdue University Study on Regional Support Services

Donna Enersen and Heather Servaty-Seib, two professors at the Purdue University College of Education conducted a qualitative study of the impact of the regional support services and pre-college programs on participating Scholars and their families. These support services played a key role in providing students with resources beyond financial assistance including academic and college preparation as well as raising college aspirations. Through the use of online surveys and focus group interviews researchers were able to draw out several important characteristics of these services that benefited Scholars the most. This section discusses several aspects of these

services that positively influenced Scholars as well as provides testimonials from site coordinators, parents and Scholars describing their experiences.

Parent Involvement

Staff members at regional centers, parents and Scholars cite parent involvement as the key to getting Scholars signed up for the TFCS program as well as their ability to persist through it. Parents were often the ones to initiate enrollment in the program because they could see the benefits and opportunities that TFCS would afford their child. Site coordinators also believed that parental involvement played a major role in getting Scholars to enroll in college. Parents of Scholars believed that being involved in the TFCS program with their child helped them learn skills to guide and encourage their child to go to college and take control of their future success. One parent stated that “[Parent involvement] is the key to any child’s education. Parents must be involved, especially since we are their first teachers.”

Peer Relationships

Many parents of Scholars expressed that the relationships that their child formed with other Scholars was valuable in keeping their child focused on their future and surrounding them with positive peer influences. For students from low-income communities, relationships with peers are not always positive. Thus, the opportunities

that Scholars had to interact with students of likeminded goals influenced their college aspirations. One parent interviewed expressed appreciation for this:

“It gives them a sense of belonging. They belong to this program, you know, they have a place in it. And I think that’s real important, too. Especially today, there are a lot of wrong places you can belong.”

Site Activities

One of the principal aspects of the TFCS program is that it “strives to give Scholars and their parents as many first-person experiences as possible to reduce anxiety and make the entry and transition to college doable.” Many of the site activities are purposed to introduce Scholars to the idea of college and activities such as campus tours, job site visits, preparation for careers that had not previously been considered and college student shadowing transforms this idea into an attainable reality. Scholars and parents found college visits, which included campus tours, visits to classes and residence halls and speaking with Scholars who were students there, speaking with counselors and spending the night on campus particularly meaningful because it allowed them to picture themselves at college. One site volunteer commented on the effect that these activities had on Scholars:

“That did make them think on a higher level, because they start thinking like: ‘Notre Dame!’ or ‘I can be an engineer...I can be a teacher...’ So, it has been a good experience. They no longer talk about IF they are going to college, with the help of the program, it’s WHEN and WHERE they’re going to go.”

Scholar's Pledge

Both Scholars and parents identified the pledge and the commitment that students must make as a characteristic of the program that encouraged Scholars' to remain focused on their goal of attending college. Parents often took initiative in enrolling their child in the TFCS program, and while this was an important first step for both parents and students, the most prevalent point was when Scholars had to make a personal commitment to remain involved and persist through the program. Scholars' comments suggest that this point most often came at the start of high school and this played a great role with respect to persistence through the program as well as through college. One Scholar spoke about what taking the pledge meant:

“I think taking the pledge, you just say to yourself, ‘I took the pledge, and I’m making it.’ I think the pledge should not just be a pledge for the Twenty-first Century Scholars, I think it should be a pledge for everyday life...”

The Scholar's pledge along with other aspects of the program that raise educational aspirations have also alluded to Scholars taking control of their education and future. Interviews with Scholars and parents revealed situations where students took initiative and sought out opportunities to enhance their academic experiences.

One Scholar noted:

“I remember my freshmen year, I was in regular algebra, and I told my counselor I wanted to be in honors math classes. And she told me: ‘You can’t do this, you are not good enough.’ And I told her, ‘I want to do this.’ I pushed her for like a week to get into that class.”

Through regional site services, not only are Scholars encouraged to enroll in advanced courses that will help prepare them for college, but also advocate for their right to participate in these courses.

Limitations to the Twenty-first Century Scholars Program

Many studies done on the Twenty-first Century Scholars Program demonstrate that the program substantially improved the odds that low-income students would enroll in college, with an increased likelihood that Scholars would choose a four-year college, and apply for student aid. It is also clear across numerous studies that Scholars enroll in college at higher rates than other low-income students who did not participate in TFCS. However, one criticism that has surfaced among studies comparing persistence rates of Scholars to low-income students receiving aid other than the TFCS awards finds that there are no significant differences between Scholars and non-Scholar, low-income students in attainment of four-year college degrees. St. John (2008) for instance, found that Scholars' within-year college persistence was 86% compared to 89% for non-Scholar aid recipients. This was the first study to raise questions as to whether the TFCS program in and of itself helps students persist through college to obtain a degree as there appeared to be insignificant differences between whether a student's award package consisted of TFCS grants or other forms of aid.⁹³

⁹³ Source: St. John, Edward P. "Program Outcomes: The University of Michigan Studies." *Lumina Foundation Indiana's Twenty-first Century Scholars program: A statewide story with national implications* (2008)

Moreover, Indiana colleges and universities have received criticism for the lack of support services offered once students matriculate to college. Currently, the TFCS program offers extensive support services for high school Scholars and their parents, but these support services are not always offered for Scholars once they enroll in college and most institutions do not provide the support services that focus on retention of students entering through the TFCS program (St. John & Musoba, in review). A site visit conducted by the Indiana University-Purdue University Indianapolis (IUPUI) study team criticized colleges and universities in the state for failing to take initiative to provide support services for students entering institutions through this generous support program funded by the state.⁹⁴ Often, support services for freshmen Scholars were found to be inconsistent across college and university campuses and tended to be underfunded and under-supported by university administrators.

⁹⁴ Kezar, Adrianna. *Recognizing and Serving Low-Income Students in Higher Education: An Examination of Institutional Policies, Practices and Culture*. New York, NY: Routledge, 2011. Print.

Conclusion

The Twenty-first Century Scholars Program provides a national model for an alternative way of looking at merit-based financial aid programs. In many ways, TFCS serves as a middle ground between need-based grants and merit-based scholarships by utilizing financial aid to encourage academic achievement and preparation. Indiana's Twenty-first Century Scholars is an example of what states need to consider with respect to low-income and minority students and merit-based financial aid.

While the issue of college affordability for low-income and minority students has been a popular topic in education policy for many years, the TFCS program extends the conversation to include the significance of multifaceted financial aid programs. Much of the debate has focused on tuition and fees as a barrier to college access. Until recently, education officials are discovering the importance that non-financial support has on low-income students. The literature on college accessibility is beginning to shift towards support services in college that target socioeconomically disadvantaged students. A working paper that was released recently by the National Bureau of Economic Research examines a program that provides multifaceted aid for low-income students at an elite public university in North Carolina. The aid package consists of grants and work-study awards that covers 100% of a student's financial need as well as supplemental services such as "mentoring by a faculty or staff member, peer mentoring by older Covenant scholars, academic workshops on topics such as time management, note taking, and subject-specific study techniques, career and personal development opportunities such as career workshops, financial literacy, an 'etiquette dinner,' and

social events.” Clotfelter, Ladd and Hemelt (2016) found that college graduation rates increased by 8% for students in the program, who came from families with incomes averaging \$26,000 per year. This means that low-income students were graduating at about the same rate as students from families with incomes of \$125,000 per year.^{95 96}

Comparably, Indiana’s TFCS program has important implications for closing the achievement gap between low and high-income students. Along with financial guarantees, Indiana has worked to reform its high school curriculum, offering additional advanced degree and math course options, providing regional service centers throughout the state with tutoring and pre-college support services as well as targeting parents of low-income students among other things. The state worked extensively to focus its resources on Indiana’s neediest youths, just to get low-income students enrolling and graduating from college at the *same* level as their higher income peers. However, Indiana’s college and universities have fell short of continuing these support services once Scholars enroll in college. The state would benefit from focusing on ensuring that institutions within the state continue to support Scholars through to graduation to maximize the benefits of the program.

⁹⁵ Gunn, Dwyer. "Making College Accessible to Low-Income Students Is About More Than Just Tuition." *Pacific Standard*. 11 May 2016. Web. <<https://psmag.com/making-college-accessible-to-low-income-students-is-about-more-than-just-tuition-d343fb190572#.7ll181xba>>.

⁹⁶ Clotfelter, Charles T., Steven W. Hemelt, and Helen F. Ladd. "Multifaceted Aid for Low-Income Students and College Outcomes: Evidence from North Carolina." *The National Bureau of Economic Research Working Paper* (2016)

If the story of the Georgia HOPE Scholarship Program, the New Mexico Lottery Scholarship Program and Indiana Twenty-first Century Scholars conveys anything to policymakers, it is the complexity and impact that growing up in a low-income household has on youths and their likelihood of successfully navigating the education pipeline. It also demonstrates a need for conscientiousness in crafting programs to expand access to higher education so that low-income students are not left out of getting an opportunity to attend college due to policy that inadvertently creates inequality within the education system.

Recommendations for Policy on Merit-Based Financial Aid Programs

The Georgia HOPE Scholarship and Grant Program, the New Mexico Lottery Scholarship Program and the Indiana Twenty-first Century Scholars Program speak to the importance of good policy and the need to be conscientious about such policy when implementing initiatives for underserved students. Merit-based financial aid programs demonstrate how poorly devised policies can reap tremendous consequences for youths and further exacerbate the divide between students of varying socioeconomic status. This section highlights four key recommendations for policy surrounding merit-based aid programs.

Income Caps

Income caps serve as an important characteristic of any financial aid program because it allows states to target its funds towards the students with the most financial

need. Georgia HOPE provides a useful example of a state program whose goal was to assist needy students with the cost of college while also becoming the most all inclusive scholarship program in the nation. These two goals ultimately collided with one another to produce a program that is now criticized for its focus on solely middle and upper income whites in Georgia. At a time when states are not replete with monetary resources, financial aid programs with no income caps provide no limit on how many students the state is obligated to serve. Both Georgia HOPE and the New Mexico Lottery Scholarship are experiencing the nuisance with funds running dry as more and more students are meeting the scholarship qualifications. This has caused both Georgia and New Mexico to tighten eligibility requirements, cap the scholarship amount awarded and reduce the number of semesters the program funds. The concern with income caps brings up another central issue as to whether it is smart policy for states to award the majority of its funds for students who already have the resources to afford college. For instance, much of the literature surrounding Georgia HOPE has identified that the program disburses billions of dollars to households who would have sent their children to college regardless of any aid received. Additional research by Cornwell and Mustard (2007) found that in 1994 and 1995 (recall that Georgia HOPE raised the income cap to \$100,000 in 1994 and eliminated it entirely in 1995), car sales in Georgia increased among students from counties above the 75th percentile in per capita income but did not significantly vary among students from counties below the 25th percentile in per capita income. The implication that was drawn out from this study was that approximately 85% of Georgia funds were used as HOPE rent meaning that the scholarship led to automobile purchases using savings that were otherwise meant for

college expenses until the student received a HOPE scholarship which covered the bulk of college expenditures.⁹⁷ These cars are infamously termed “hopemobiles” by students at Georgia’s institutions and indicate the wide reaching and cumulative impacts that poorly thought out policy has even beyond the scope of education. Lastly, the New Mexico Lottery Scholarship Program was designed to assist its low-income and high minority population, but left the income cap wide open and attracted a greater proportion of high-income students, demonstrating the critical need for limits on income within these programs.

Targeting Students Early On in the Education Pipeline

Education policy research has often overlooked the significance of utilizing financial aid guarantees on academic preparation for college and the role of state financial aid programs in promoting access to higher education. For low-income students, the cost of college can be prohibitive and place many youths in the mindset that college is not for them because of their background and lack of economic resources. With increasing evidence that low-income youths are less likely to aspire to college, which research has indicated can effect their choice of math classes as early as 6th grade⁹⁸, financial guarantee programs such as Twenty-first Century Scholars speaks to the role of state policy in easing concerns about college costs early on in a student’s

⁹⁷ Cornwell, Christopher, and David B. Mustard. "Merit-Based College Scholarships and Car Sales." *American Education Finance Association* (2007)

⁹⁸ Kamenetz, Anya. "Free College For All: Dream, Promise Or Fantasy?." nprED, 14 June 2014. Web. <<http://www.npr.org/sections/ed/2014/06/19/322563525/free-college-for-all-dream-promise-or-fantasy>>.

academic career and channeling financial aid towards encouraging students to take an active role in preparing for college.

Merit vs. Need-Based Aid

The debate between merit versus need-based aid has been at the forefront of concerns about where states are focusing funds. While many proponents of merit-based scholarships argue that merit aid allows a state to reward the best students, shifting funding towards need-based aid ensures that needy students are assisted first. The state of Indiana demonstrated this by channeling aid to their low-income population and as a result was able to significantly increase the number of students enrolling in college while also reducing the amount spent per FTE. This provides states with valuable knowledge about cost-effective policy initiatives when targeting underserved students.

Yet it is also worth noting that Georgia HOPE and the New Mexico Lottery Scholarship Program bring up an important point about why states lean towards programs that reward high academic achievement. In order for these programs to be fruitful, students receiving these awards ultimately need to have the academic preparation necessary to succeed in college. Many low-income students attend schools in disadvantaged neighborhoods and lack access to resources that help them prepare for college. When states award aid to students, the hope is that these students will eventually graduate from college. Education policy should not only focus its efforts on

targeting students based on need, but also utilizing these funds to motivate youths to take the necessary steps to prepare for the academic demands of a college or university.

Understanding Characteristics of Low Income Students

A major flaw with the policy surrounding merit-based financial aid programs is the assumption that students from all socioeconomic backgrounds begin at the same point in the education pipeline. Georgia HOPE for instance, originally introduced its program to aid students who were burdened with the cost of college tuition, but did not take into account characteristics of socioeconomically disadvantaged students and how HOPE could be designed to meet the needs of youths from these backgrounds. The premise of HOPE was that it was a fair program because all Georgia students were given the same opportunities to earn an award by making good grades in high school. As a result, HOPE became a program that encompassed characteristics that worked against low-income and minority students in Georgia. While New Mexico took additional steps to tailor their lottery scholarship program to their low-income and high minority population, ultimately the state did not consider how low-income students may be disadvantaged beyond grade point averages and the application process. Indiana Twenty-first Century Scholars serves as a model for a program that defines realistic expectations and outcomes for low-income students. By utilizing financial guarantees to promote college preparation early on in a child's educational career as well as providing support services, and introducing students to the prospect of higher education, Indiana

has been exceptionally conscientious in ensuring that TFCS provides not only financial aid but also services that work in favor of disadvantaged students.

The Georgia HOPE Program, the New Mexico Lottery Scholarship and the Indiana Twenty-first Century Scholars have demonstrated the power of state policy to inadvertently create inequality within the education system and further exacerbate the achievement gap. However, these programs have also shown that while a student's background may place them behind those who have access to educational and financial resources, good policy can have a reversal effect and instill tremendous influence on their educational and life outcomes.

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