

*Lumina Foundation*

# RESULTS AND REFLECTIONS

*An evaluation report*



*Indiana's Twenty-first Century Scholars program:  
A statewide story with national implications*

# BACKGROUND AND ACKNOWLEDGMENTS

This report summarizes three separate evaluative research projects, all of which address different but closely related aspects of Indiana's Twenty-first Century Scholars program — a state-supported effort to promote pre-college preparation and postsecondary access for low-income students.

The first research project was coordinated and designed by Edward P. St. John, a professor of education at the University of Michigan. St. John also served as the principal investigator. He was aided by four graduate assistants (Nate Duan-Barnett, Amy Fisher, Malisa Lee and Krystal Williams) and an editor, Phyllis Stillman. In this component, St. John and his colleagues built on and extended their seminal quantitative work on the college attendance and completion success of Twenty-first Century Scholars. In addition, they augmented this work with statistical investigations into the kinds of pre-college curricular and college preparation experiences used by Twenty-first Century Scholars, and they explored relationships between these experiences and college enrollment and success.

The second project was a qualitative study conducted by Donna Enersen and Heather Servaty-Seib, both professors in the Purdue University College of Education, who were aided by three graduate students (Sharon McNeany, Cathy Streifel and Leon Walls). Andrew K. Koch, director of Student Access, Transition and Success Programs at Purdue, acted as the point person for the project and, with help from Senior Assistant Director Matthew D. Pistilli, provided coordination assistance. The researchers in this study used focus groups, surveys and interviews to explore practices used by Twenty-first Century Scholar support sites that prepare the students and their families to gain admission to and enroll in college.

The third research project summarized in this report — a qualitative effort conducted by Indiana University-Purdue University at Indianapolis (IUPUI) — involved a three-person research team: Joshua S. Smith, assistant professor of educational psychology in IUPUI's School of Education; Robert Helfenbein, assistant professor of teacher education; and Robin Hughes, assistant professor of higher education and student affairs. This team explored what colleges and universities do and can do to help Twenty-first Century Scholars succeed once they enroll in college.

Each of the three research teams has published a comprehensive report on its work, and those reports are available on their respective Web sites:

- University of Michigan: [www.umich.edu/~mpas/LuminaReport.pdf](http://www.umich.edu/~mpas/LuminaReport.pdf)
- Purdue University: [www.purdue.edu/sats/Literature\\_Research.html](http://www.purdue.edu/sats/Literature_Research.html)
- IUPUI: <http://education.iupui.edu/cume/docs/techreport2008.pdf>

Scott Evenbeck, dean of University College at IUPUI, served as the project manager for both qualitative evaluations (Purdue's and IUPUI's) and coordinated activities among the three research teams. He and Andrew Koch also contributed to this report's foreword and final chapter. Paula Schmidt-Lewis of PSL and Associates, an experienced evaluation consultant, worked with all three teams to synthesize their findings and authored the initial draft of this report. PSL and Associates engaged independent evaluation consultant Deborah G. Bonnet to serve as a contributing data analyst and writer.

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**Design/production:** RSN, Ltd.

**Printing:** SPG Graphics Inc.

**Photography:** Cover photo of Twenty-first Century Scholar Ortney Edwards, a senior at Howe Academy in Indianapolis, provided by IUPUI.

# FOREWORD

Telling the story of Indiana's Twenty-first Century Scholars Program is important — for the Scholars, their families, the state of Indiana and, ultimately, for the nation. By serving low-income (and often first-generation) students through a comprehensive program beginning in middle school and extending through postsecondary education, Indiana has taken a bold step toward enhancing access to higher learning. In the process, it has provided an important model for other states to consider.

Since 2003, as part of its overall college access and success efforts, Lumina Foundation for Education

has sponsored spring conferences for Indiana practitioners and researchers who are interested in learning and doing more about increasing student postsecondary academic achievement and completion rates. Faculty, administrators and staff from across Indiana's campuses — two-year and four-year, public and independent — have used these meetings to share promising practices for enhancing student success in Indiana.

More recently, in conjunction with these statewide student success gatherings, Lumina has supported additional fall meetings — gatherings to foster discussion about practices and research that help Twenty-first Century Scholars succeed once they go to college. Here again, the participants come from varying constituencies

across the range of Indiana's campuses.

The rationale for these Twenty-first Century Scholars-focused meetings is rooted in the *application* of scholarship to practice, as well as the *shaping* of research by practice. Previous research had informed us that the work done with middle school and high school students and with their families resulted in increased college-going rates for Twenty-first Century Scholars when compared to other low-income students. But to realize the program's promise, Twenty-first Century Scholars must do more than *enroll* in college; they must

*complete* it as well. In the course of these conversations, it became clear that more research was needed on how

**TWENTY-FIRST CENTURY SCHOLARS MUST DO MORE THAN ENROLL IN COLLEGE; THEY MUST COMPLETE IT AS WELL.**

Indiana can better prepare Twenty-first Century Scholars for college and how we can support their success once they enroll. The three research projects included in this report help address these knowledge gaps.

We know that as students and circumstances change, the programs will continue to evolve; our statewide commitment to assessment and improvement ensures this. Thus, the conclusions and recommendations included in this report should not be seen as "the last word." Rather, they should be viewed as the next contribution to the continuing, research-based discussion on how we can shape education practice and policy to enhance the quality of life in our communities, state and nation.

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# INTRODUCTION

Since 1990, Indiana's Twenty-first Century Scholars program has been helping the state's low-income students prepare for and pay for college. Established by the Indiana General Assembly to ensure that all Indiana families can afford a college education for their children, this "early commitment" program invites students in grades six<sup>1</sup> through eight to pledge to meet certain academic and behavioral standards throughout high school. In return, the state guarantees up to four years of grant aid covering the full cost of tuition at any public college or university in Indiana or the equivalent amount toward private school tuition. Fourteen regional centers provide students and their families various college-preparatory support services through the middle and high school years. Some Indiana campuses single out their enrolled Scholars for extra help adjusting to college life; others steer Scholars toward support services available to all students.

The program enrolls roughly one in three income-eligible students and 10 percent of all students. Each year since 2001, approximately 7,500 students have enrolled in the Scholars program. The 2005 cohort, for example, originally numbered 7,282 students — 33 percent of eligible eighth-graders and 9 percent of all eighth-graders in Indiana. Overall, about 44,110 Indiana high school graduates were admitted to colleges, universities and technical schools in 2005. Scholars who were admitted to college that same year (4,493) represented 10 percent of all the new college goers in Indiana.<sup>2</sup>

Researchers at Indiana University conducted studies of the Twenty-first Century Scholars'

1999 cohort. That research, published by Lumina Foundation for Education in 2002, left no question that the Scholars program helped increase college enrollment among low-income students: Up to 85 percent of Scholars who signed up for the program in eighth grade were in college within a year after their expected high school graduation in 1999. This remarkable result begged for further investigation and prompted Lumina Foundation to support new studies that addressed the following questions:

- What are the effects of the Twenty-first Century Scholars program? In particular, does it contribute to college success, i.e., persistence and graduation? Though persistence through degree attainment was neither an explicit goal of the program's enabling legislation nor part of its original design, it is nevertheless reasonable to ask whether Scholars are more likely than other low-income students to remain in college once they get there.
- What is it about the grant aid — or the promise of it — that makes the Twenty-first Century Scholars program work?
- What elements of the Scholars program's pre-collegiate programming are particularly effective, and where is there opportunity for improvement?
- How and to what extent are Indiana campuses attending to Scholars' special needs? What else could they do to help Scholars overcome the particularly daunting barriers to college success associated with economic disadvantage?

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<sup>1</sup> Sixth-grade enrollments were permitted for the first time in 2008-2009.

<sup>2</sup> Numbers come from a recent presentation by the Indiana Commission for Higher Education (ICHE), based on data from the State Student Assistance Commission of Indiana (SSACI). (ICHE policy brief, 2007.)

This report distills new findings from the work of teams at Indiana University-Purdue University at Indianapolis (IUPUI), Purdue University and the University of Michigan.<sup>3</sup> Results of the first 1999 cohort study (published in 2002), led by the same

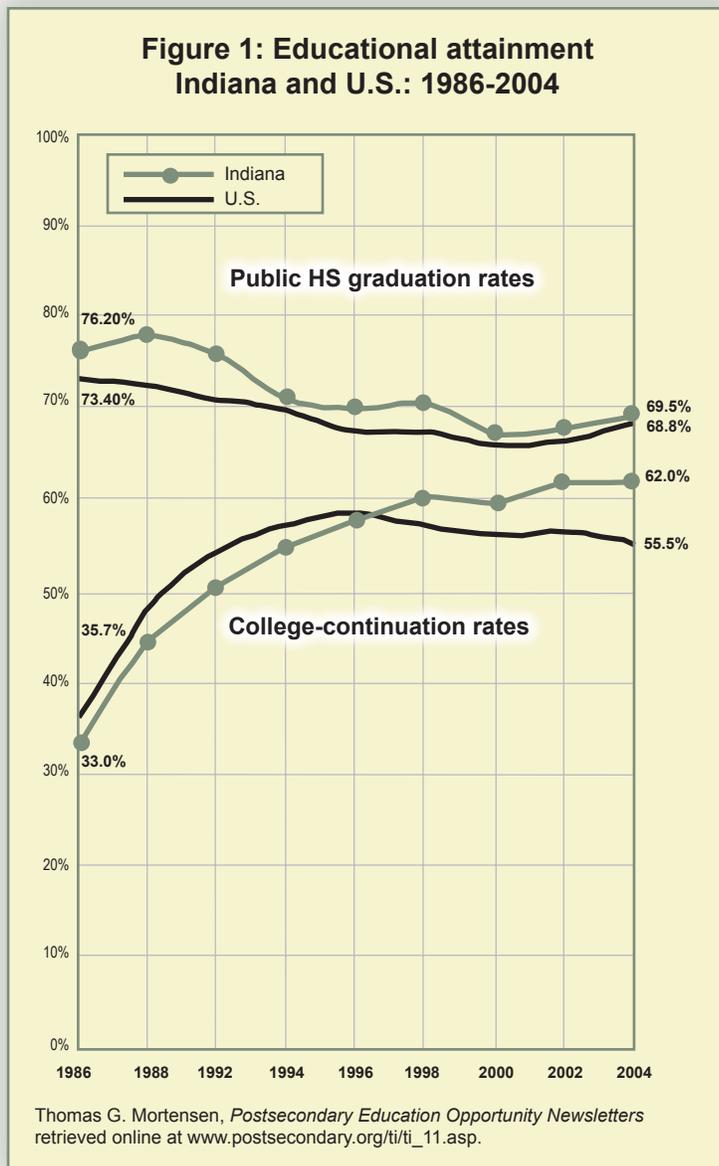
principal investigator as the University of Michigan team, are presented here, along with the more recent work. Also reported here are recently completed analyses of the six-year persistence of the 1999 cohort. These new analyses supplant some of the findings of the University of Michigan's report dated March 25, 2008.

In the process of conducting research for this report, members of the University of Michigan team discovered that their 2005 findings of the 1999 cohort follow-up were erroneous because one indicator of funding had been misreported to the study team. For that reason, those findings have been omitted from this report.<sup>4</sup>

All parties involved in this study hope that this inquiry into the successes and challenges of the Scholars program's 14 service centers and 49 participating colleges and universities (representing some 90 campuses) will lead to greater educational attainment throughout Indiana and in other states. Already cited as a promising model by such organizations as the Advisory Committee on Student Financial Assistance, the Pathways to College Network and the National Governors Association, the Twenty-first Century Scholars program is well situated to inform national conversations and practices aimed at improving college access and success.

### Indiana's turnaround

Over the past two decades, remarkable gains in Indiana's college-continuation rate



<sup>3</sup> Members of each of the research teams are named in the "Background and acknowledgments" section.

<sup>4</sup> The 2005 study identified Scholars from institutional reports, resulting in correct identification of 855 Scholars in college but missing 4,632 others — a flaw that was subsequently addressed. The six-year follow-up study of the 1999 cohort reported here instead used the more reliable data from the State Student Assistance Commission of Indiana (SSACI) to identify Scholars.

(the proportion of high school graduates entering college the following fall) have contributed to the growing national prominence of the Twenty-first Century Scholars program. Between 1986 and 2004, the college-continuation rate soared 88 percent, from 33 percent of graduates to 62 percent.<sup>5</sup> Over the same period, Indiana's ranking among the states rose from 28th to tenth.<sup>6</sup>

High school graduation rates fell nationally during the end of the last century, and Indiana is no exception. The state has, in fact, lost the slight advantage it once held over other states, with its ranking among states slipping from 25th to 32nd between 1986 and 2004, even though its graduation rate remains slightly above the national rate. More rigorous curricula and tougher graduation standards introduced during the 1990s probably underlie these trends.

Ironically, the same reforms that left more teens behind (without high school diplomas) probably also prepared more students for college. The juxtaposition of rising college-continuation rates with falling rates of high school completion was especially marked between 1986 and 1996. Both state and national high school graduation rates have turned slightly upward since 2000.

Most important to this discussion, Indiana's college-continuation rate caught up with the nation's in 1996 and has continued to inch upward over a period of national decline.

As shown in this report, the Twenty-first Century Scholars program has undoubtedly contributed to Indiana's turnaround, but it is not the only factor.

The Scholars program is part of a larger package of statewide reforms introduced in the 1990s to improve academic preparation among Indiana high school students. These reforms can be grouped in three general categories (each of which is examined in some detail to follow):

- Rigorous high school curriculum.
- Increased support services.
- Generous need-based aid.

**Rigorous high school curriculum:** Indiana confers four types of diplomas. The "general diploma," like the others, requires students to pass the Graduation Qualifying Exam. For more than a decade, the state has also offered the Core 40 college-preparatory curriculum, which requires 40 credits, including four years of English/language arts and three years each of math, social studies and science.<sup>7</sup> Two honors diplomas, both fairly rigorous, also exist: a Core 40 with Academic Honors and a Core 40 with Technical Honors. The academic honors diploma has also been available for at least a decade and, among other requirements, involves seven credits over and above the Core 40, including a fourth year of math, three years of foreign language and two semesters of fine arts. A grade-point average of at least a B is required, with no grades below C in required courses. The Core 40 with Technical Honors shares similar requirements, but includes eight or more credits in a career/technical program and may include a related internship. Indiana's honors diplomas should not be confused with Advanced Placement courses or International

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<sup>5</sup> **College-continuation rate:** The proportion of high school graduates who go on to college. **College-going rate:** The proportion of eighth-graders who make it to college, which equals the high school graduation rate times the college-continuation rate.

<sup>6</sup> All high school graduation rates reported here are from Thomas G. Mortensen's reports ([www.postsecondary.org](http://www.postsecondary.org)). The changes are real, not artifacts of changes in methodology. College-continuation rates (and state rankings based on those rates) are also taken from Mortensen and may explain any discrepancies between the Indiana rankings reported here and elsewhere. Mortensen uses population data, including in- and out-migration, to compute his estimates. At the state level, his method yields approximately the same result as the new state formula for college-going, which uses cohort tracking.

<sup>7</sup> In 2007, the Indiana General Assembly made Core 40 the default curriculum starting with the class of 2011 and changed participation from "opt in" to "opt out." Students wishing to opt out — to pursue the general diploma rather than Core 40 — must gain parental and school permission. (<http://www.learnmoreindiana.org/k12academics/Requirements/Pages/Core40DiplomaRequirements.aspx>)

Baccalaureate diplomas. Earning an honors diploma may or may not involve these or any other program of college-preparatory study.<sup>8</sup>

All high schools are required to offer the necessary curricula to earn Core 40 and honors diplomas, and, beginning with the class graduating in 2011, Core 40 is mandated as a minimum requirement for entry into Indiana's four-year public universities. State funding already rewards high schools for graduating students with Core 40 and honors diplomas. The state's formula for awarding need-based grants outside the Twenty-first Century Scholars program rewards students directly for pursuing college-preparatory coursework. A full-need student with an honors diploma receives 100 percent of his or her college's prior year's tuition; a student with a Core 40 diploma, 90 percent; and one with a general diploma, 80 percent. Twenty-first Century Scholars receive grants based on current-year tuition.

**Increased support services**, including encouragement and outreach to improve preparation and college-application rates: Historically, Indiana provided information for all middle school students and their parents, a process that influenced many families to consider college for their children. Indiana now provides hands-on encouragement and support for students who take the Scholars pledge, with special services for their parents as well. A network of 14 regional support centers is coordinated by the State Student Assistance Commission of Indiana (SSACI) through a central office in Indianapolis. The central office itself provides limited direct services such as mass mailings, a Web

A FULL-NEED STUDENT WITH AN HONORS DIPLOMA RECEIVES 100 PERCENT OF HIS OR HER COLLEGE'S PRIOR YEAR'S TUITION.

site and a hot line. At the regional sites, the Twenty-first Century Scholars program provides additional supports, including homework help, opportunities for Scholars and their parents to visit college campuses, and workshops on college requirements and the college and grants application processes.

Encouragement initiatives inside schools have also blossomed, in part due to the Scholars program's network of in-school parent coordinators. However, the provision of support services has been a growing challenge since 2005, when budget cuts forced a reduction in staff and resulted in a reorganization that eliminated two of the original 16 regional sites. As the number of Scholars grows, this challenge will undoubtedly increase, reducing the level of outreach and personal interaction that contributes to the program's success.

**Generous need-based aid** keyed to tuition inflation: National trends in college-continuation rates parallel year-to-year trends in state investments in need-based aid, which, as a proportion of tuition, fell 18 percent between 2000 and 2004. On the other

hand, Indiana's need-based aid increased by 45 percent (also as a proportion of tuition) during the same period.<sup>9</sup> State

policy keeps need-based aid on pace with tuition, not only within the Scholars program, but outside it. Between 2000 and 2004, Indiana increased its average need-based award by \$450, *more than any other state*. In fact, the national average for this increase (which includes students who receive no state aid at all), was only \$22. Average awards actually decreased in 21 states, and another 10 states held even or kept

<sup>8</sup> [http://www.doe.state.in.us/core40/docs/core40\\_final\\_2011+.doc](http://www.doe.state.in.us/core40/docs/core40_final_2011+.doc)

<sup>9</sup> St. John & Musoba, *Pathways to Academic Success*, under review.

increases under \$10. In 2004, Indiana's state need-based aid accounted for 21 percent of all tuition; only New York and California ranked higher on this ratio.<sup>10</sup>

The Twenty-first Century Scholars program represents only a fraction of need-based student aid awarded by the State of Indiana. In 2006-07, for example, Scholars grants totaled \$20.2 million, while Frank O'Bannon Grants amounted to \$163.4 million.<sup>11</sup> Taken together, state grants totaled \$216.2 million, 87 percent of that (\$189.2 million) for needs-based programs; the balance went to merit scholarships, career choice incentives and other targeted programs.<sup>12</sup>

## Twenty-first Century Scholars program design

The Twenty-first Century Scholars program design has five steps:

1. Income-eligible students are invited to sign up for the program.
2. Students take a pledge during middle school, thereby becoming Scholars.
3. Fourteen regional centers coordinated by a state office in Indianapolis offer support services to Scholars and their families until the students graduate from high school.
4. Scholars who enroll in college receive financial aid.
5. Colleges offer support services designed specifically for Scholars and/or integrate Scholars into other appropriate campus-wide services.

Income eligibility is based on family income at the time of enrollment in the Twenty-first Century Scholars program, when students are in grades six,

seven or eight; changes in family circumstances thereafter do not alter eligibility. The income-eligibility guidelines are exactly the same as those for the federal free and reduced lunch program. Thus, in 2007-2008, a student whose family of three had a gross income of no more than \$31,765 met the income test.

The essence of the Scholars' pledge is to:

- Graduate from an accredited Indiana high school with at least a 2.0 grade-point average.
- Apply for admission to an Indiana college.
- Apply for state and federal financial aid by the deadline ("affirmation").
- Refrain from illegal drugs, alcohol and criminal activity.
- Enroll full-time at an eligible Indiana college or university within two years of high school graduation.<sup>13</sup>

**Pre-college support services.** While in secondary school, Scholars and their families are offered special optional assistance in preparing for college through 14 regional centers. Though all but four of the service centers are housed on college campuses, the particular center a Scholar uses is not meant to constrain his or her college choice. Activities vary from site to site but generally include tutoring, career exploration exercises, guidance in selecting a college-preparatory program of study, financial aid and planning workshops, help with college and financial aid applications, and college campus visits. One of the studies summarized in this report, conducted by researchers at Purdue University, focuses specifically on the benefits of these services.

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<sup>10</sup> These analyses are from an unpublished manuscript now under review as: St. John, E.P. & Musoba, G.D., *Pathways to Academic Success*.

<sup>11</sup> The Frank O'Bannon Grant (formerly the Indiana Higher Education Grant) program, provides need-based grants (with no repayment required) to provide access for Hoosier students to eligible postsecondary institutions. It is funded through Indiana General Assembly. (<http://www.in.gov/ssaci/2346.htm>)

<sup>12</sup> State Student Assistance Commission of Indiana, *Activity and Program Report for Academic Year 2006-2007* (December 2007), Table 3.

<sup>13</sup> The full pledge can be found at <http://www.in.gov/ssaci/2374.htm>

The regional sites grew out of a 1991 grant from Lilly Endowment that recognized the importance of parent involvement in the academic success of students. The grant enabled seven Scholar and parent support groups to be piloted across the state. By 1998, additional state appropriations and federal funds had allowed the sites to expand services and staff to a total of 16 sites. However, in 2005, budget constraints forced the program to reorganize. That reorganization resulted in the current 14 sites and reductions in staff. Despite the redoubled efforts of remaining staff members, respondents in the Purdue University study reported that these cutbacks have curtailed service provision to Scholars and their parents.

**Grant aid.** Twenty-first Century Scholars who have fulfilled the pledge are guaranteed the cost of four years of undergraduate tuition at any participating public college or university in Indiana. Students attending a private institution in Indiana are awarded an amount comparable to the tuition at a public institution. If the student attends a participating proprietary school, the state awards a tuition scholarship equal to that of Ivy Tech Community College. Scholars have up to six years to apply their award to a four-year education.

Twenty-first Century grant aid is considered "last dollar" aid. That is, Pell, O'Bannon and any other

grants a student receives are applied first. O'Bannon grants amount to 80 to 100 percent of the selected school's tuition and eligible fees minus the expected family contribution.<sup>14</sup> For a student who receives no other grants, then, the Twenty-first Century Scholar award equals at least the expected family contribution. Grant aid covers all tuition and certain fees, but books, some fees and living expenses are another matter.

Particularly since Scholars are required to maintain full-time student status, many still need to turn to loans.

**College support services.** In response to recent shifts in

demographics and increasing diversity in their student bodies, colleges across the nation have increased their efforts to help marginally prepared and otherwise challenged students. Indiana colleges are no exception, and they have been assisted in this effort by support from Lilly Endowment and Lumina Foundation to focus on student access and persistence.

Twenty-first Century Scholars presumably benefit from these new and enhanced policies, programs and services. Scholars are likely to face special challenges: They are no more than two years out of high school, from families of limited means, and they are required to carry full-time course loads to keep their grants. However, until now, little has been known about how and to what extent Indiana campuses pay special attention to Scholars. A study conducted by IUPUI, summarized in this report, focuses on this very matter.

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<sup>14</sup> In the Frank O'Bannon Grant program, tuition and fees are calculated from the prior year; they do not cover year-to-year price increases. Awards are also capped, based on fund availability. Expected family contribution (EFC) is taken from the Free Application for Federal Student Aid (FAFSA).

# OVERVIEW AND METHODOLOGIES

This summary presents highlights of reports prepared by each of three research teams as part of a collaborative inquiry. The teams' full reports all contain rich detail that will be of interest to many. Links to the full reports can be found at the front of this publication, in the "Background and acknowledgments" section, and also on the Lumina Foundation Web site ([www.luminafoundation.org](http://www.luminafoundation.org)).

- **Outcomes and predictors: the University of Michigan.** Including the 2002 evaluation of the Twenty-first Century Scholars program led by the same principal investigator, Edward St. John, the Michigan team conducted eight studies of four cohorts (1999, 2000, 2004 and 2005). These studies sought to document six student outcomes representing key milestones toward degree attainment:
  - Pursuing advanced mathematics in high school.
  - Earning college-preparatory (Core 40 and honors) diplomas.
  - Applying for financial aid.
  - Enrolling in college.
  - Enrolling in Indiana public colleges and universities (research, four-year, two-year).
  - Remaining enrolled through the first year.
  - Graduating within six years of finishing high school.

Six studies involved comparing postsecondary outcomes of Scholars with those of non-Scholar Pell grant recipients — that is, low-income college students who, for whatever reason, had not signed up for the Scholars program. These studies used various combinations of databases maintained by the Indiana Commission for Higher Education, the College Board

and others. Researchers employed various statistical techniques to control for student, family and/or high school characteristics in evaluating program effects.

The other two studies explored what kinds of Scholar and family engagement activities are related to three outcomes — applying for aid, high school diploma type and college enrollment by type. Measures of participation in pre-collegiate programming came from student records maintained by the Twenty-first Century Scholars program.

- **Pre-collegiate programming: Purdue University.** The Purdue team used a qualitative approach to examine the experience of middle school and high school-level Scholars and their families with the Twenty-first Century regional support centers. Specifically, the study focused on seventh- through 12th-grade students enrolled in the program, their parents and/or guardians, and the staff who work in the Twenty-first Century Scholar support sites. Staff members from each of the 14 support sites completed two online surveys, while 123 Scholars and 112 parents and guardians from 10 of the support sites participated in focus groups.
- **College-level programming: Indiana University-Purdue University Indianapolis.** The IUPUI research team conducted a qualitative study of Twenty-first Century Scholars' experiences with the support services provided at their colleges. The research team also interviewed student affairs professionals and college administrators to examine the resources and support services provided by their respective institutions. In an attempt to capture data from a wide variety of perspectives and to inform future evaluations, the researchers had hoped to interview a small group of non-persisters — Scholars who had left

college prior to degree completion. Unfortunately, locating former Scholars proved untenable in this evaluation; still, this remains a promising area for future research.<sup>15</sup>

## Overview of this report

The three studies are summarized individually, beginning with the University of Michigan team's look at the outcomes of the Twenty-first Century Scholars program and quantitative findings about "what works" — in other words, how engagement in particular kinds of Scholar and parent/family activities relates to (and perhaps leads to) selected student outcomes.

Following the discussion on the quantitative analysis, we turn to the Purdue and IUPUI studies

to explore further the extent to which the Scholars program is meeting its goals from the perspective of those taking part in the program.

The qualitative studies were designed to complement the University of Michigan team's quantitative analyses and to help interpret, illustrate and augment those analyses. Additionally, the qualitative studies are meant to give voice to the views of a variety of individuals involved in the Scholars program so we can better understand how they experience the program.

The report ends with a summary of findings of the four overarching evaluation questions and a list of recommendations for improving the Scholars program.

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<sup>15</sup> Contact with non-persisters was attempted through "cold calls" via telephone. This effort typically resulted in an unsuccessful game of "phone tag" or revealed a phone number that was no longer in service.

# PROGRAM OUTCOMES

## THE UNIVERSITY OF MICHIGAN STUDIES

The purposes and methods of the University of Michigan team's work are outlined in the previous section, and Figure 8 shows the specific parameters of each study conducted by that team. (Figure 8 — a series of three detailed charts — is on Pages 19-20, at the end of this section of the report.) Several notes about data sources are important to keep in mind, as their scope and limitations have driven many of the Michigan team's study design choices:

- Indiana's Student Information System (SIS) is the primary data source for college enrollment and persistence. The SIS tracks students in Indiana public colleges, but misses Indiana residents who attend private, proprietary and out-of state schools.
- SSACI (the State Student Assistance Commission of Indiana) houses FAFSAs<sup>16</sup> for all Indiana residents and tracks financial aid awarded by the state. For the 1999 cohort only, SSACI provided information about enrollment in private Indiana colleges and enabled the researchers to infer out-of-state enrollment based on the schools to which students requested that their FAFSAs be submitted.
- In many of the analyses, student, family and/or high school characteristics are included as control variables (and are of interest in their own right). Variables used in examining any given outcome differed depending both on data source and on research and theory regarding

relationships between students' circumstances and educational outcomes. For most analyses, student characteristics include gender and ethnicity; family characteristics include family income and parent education levels — all drawn from FAFSAs — and high school characteristics include location (city, rural, etc.), the ethnic composition of the student body and the proportion of students in the high school qualifying for free or reduced school lunch — gathered from the Indiana Department of Education. Additional student data were used in some analyses.

- 1999 cohort: In 1995, the Indiana Career and Postsecondary Advancement Center (ICPAC)<sup>17</sup> administered a survey directed at all ninth-graders in public schools; 65,975 (approximately 80 percent) were returned. Questions included self-reported grades in ninth grade, educational aspirations, household composition and language spoken at home. These data, along with information referenced above about enrollment in private and out-of-state colleges, have made the 1999 cohort of special interest.
- 2000 cohort: Studies of the 2000 cohort focus exclusively on students enrolled in Indiana public four-year colleges. For this cohort only, the College Board supplied student-level data from a questionnaire contained in the SAT, including courses taken and self-reported grades in high school. These studies were

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<sup>16</sup> FAFSA: Free Application for Federal Student Aid; also used for other need-based aid programs.

<sup>17</sup> In 2004, ICPAC adopted the name Learn More Indiana and serves as a college and career resource center for students and parents. Learn More Indiana now surveys students annually in both the ninth and 11th grades.

limited to four-year college students because two-year colleges generally do not require the SAT.

- 2004 and 2005 cohorts: A Web-based system for tracking student and family participation in Twenty-first Century Scholar activities was implemented in time to capture these data for the 2004 and 2005 cohorts. This made it possible to explore relationships between measures of program participation and subsequent educational outcomes.

As the current study was under way, the Indiana Commission for Higher Education prepared a policy brief that included some analyses similar to the University of Michigan team's. Some of those findings are cited in this report.<sup>18</sup>

The Michigan team's findings are presented in chronological order on a student's path to a college diploma:

- Academic preparation, measured by pursuing advanced mathematics and earning college-preparatory diplomas.
- Applying for financial aid and sitting for the SAT.
- Choosing among two- and four-year colleges, public or private, in or out of state.
- Enrolling in college.
- Remaining enrolled through the first year.
- Persistence to college graduation, preferably within six years.

## Academic preparation

The 2000 cohort study looked specifically at the traditional high school graduate who goes immediately to college. (See top section of Figure 8, Page 19.) The cohort consisted exclusively of Indiana high school graduates, ages 17-19, enrolled in four-year colleges. The database included student reports on high school courses completed. This made it possible to infer diploma type for students taking the SAT when their colleges did not provide these reports. Twenty-first Century Scholars were compared to Pell-eligible non-Scholars, a group that probably would have been financially eligible for the Scholars program but did not take the pledge.

## High school diploma type

In raw percentages, Scholars and other low-

income college students were nearly equally matched on the types of diplomas they earned. However, using statistical

techniques to control for differences between the groups in student, family and school characteristics, the researchers teased out the following patterns:

- Being a Scholar improved the odds of earning the Academic Honors diploma by 37 percent.
- The Scholars program appears to be particularly effective at encouraging African American Scholars to earn honors diplomas. Among African Americans who entered four-year colleges, the chances of having an honors diploma were 85 percent higher for Scholars than for other students of comparable backgrounds.

BEING A SCHOLAR IMPROVED THE ODDS OF EARNING THE ACADEMIC HONORS DIPLOMA BY 37 PERCENT.

<sup>18</sup> Indiana Commission for Higher Education, *Indiana's Twenty-first Century Scholars Program: A Look at Impact*, 2007.

A similar analysis of high school diplomas earned by students in the 2004 cohort included those at two-year and four-year public institutions (Figure 2). In raw percentages, Scholars were more likely than Pell recipients to earn both honors and Core 40 diplomas. Controlling for ethnicity increased the differences.

### Advanced mathematics

Scholars were more likely to pursue advanced mathematics. Among low-income students in four-year colleges, controlling for other factors, Scholars in the 2000 cohort had a 29 percent higher likelihood of completing calculus, as opposed to stopping before trigonometry. This is important: It means that Twenty-

first Century Scholars are potentially more likely than other Indiana students of limited financial means to place into calculus or better upon entering college, to qualify for admission to top-tier liberal arts colleges, and to be prepared for majors in science, technology, engineering or math (STEM).

### SATs as an indicator of achievement

Taking the SAT is a necessary step toward enrollment in four-year colleges in Indiana. The study of the 2004 cohort compared Scholars to other Pell grant recipients in Indiana public colleges and found that Scholars were more likely to take the SAT (75 percent vs. 65 percent). Both groups' scores clustered in the mid range of Indiana scores in both math and verbal (775-1139 total score). Roughly equal numbers of both groups scored in the high and low ranges.

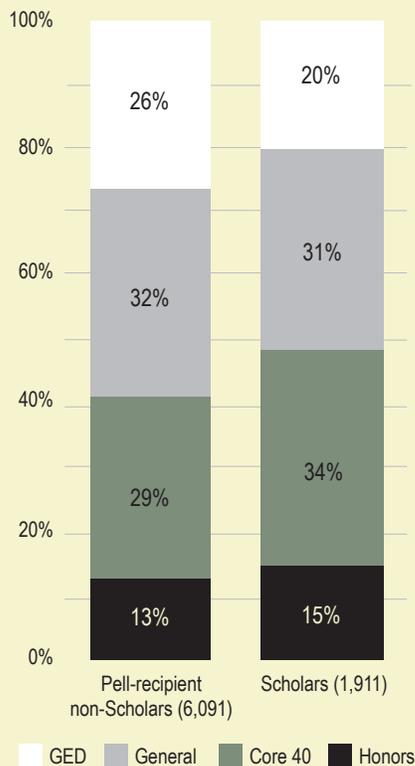
### The FAFSA as an indicator of fulfilling the Scholars' pledge ("Affirmation")

Among the 2005 cohort of Scholars who signed up in the eighth grade, 62 percent applied for financial aid (submitted FAFSAs) as seniors. This affirmation is the primary indicator used for determining whether students completed the Scholars pledge, thus establishing their eligibility to receive the Scholars award if they enroll in an Indiana college.

### College enrollment

The 1999 cohort offered the best opportunity to examine the impact of the Twenty-first Century Scholars program on college enrollment. (Figure 8, Page 19, column one of bottom section.) A baseline survey was administered to most ninth-grade students throughout the state in 1995, and the researchers were able to trace their status five years later. Although they were unable to distinguish between high school drop-outs and high school graduates who did not go immediately to college, the team was able to estimate

**Figure 2: Type of high school diploma earned by 2004 cohort students enrolled in Indiana public institutions the fall after graduation**



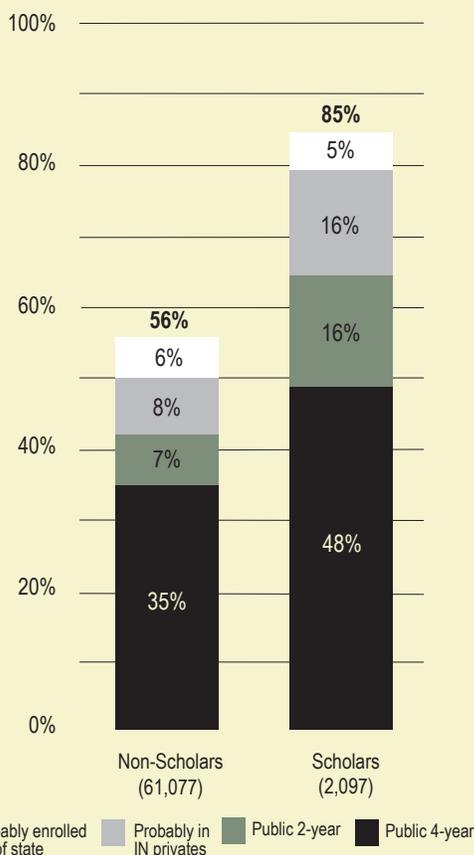
college-going rates for this cohort, including Scholars who probably attended out-of-state institutions. The researchers found that:

- Sixty-four percent of Scholars in the 1999 cohort were enrolled in an Indiana college or university within one year of high school graduation, 16 percent in private or proprietary schools, and 5 percent were probably enrolled in out-of-state colleges, for a total estimated college-going rate of 85 percent. By comparison, an estimated 56

percent of non-Scholars were enrolled in college (Figure 3). That is to say, *Scholars were over 50 percent more likely than non-Scholars to be in college within four years after ninth grade.*

- Nearly half (48 percent) of the young people enrolled in the Twenty-first Century Scholars program as ninth-graders were enrolled in public four-year colleges.
- Even without accounting for barriers associated with low family income, Scholars' college-going rate exceeded that of Indiana students as a whole.

**Figure 3: College enrollment of the 1999 cohort by Spring 2000**



However, a caveat is in order here. This research involved merging five different databases. In the course of winnowing out unmatched cases and missing data, the study ended up involving only 63,174 (96 percent) of the 65,975 students who completed the ninth-grade survey. More worrisome, it captured only 2,097 (44 percent) of the 4,748 Scholars whom SSACI reports as enrolled in the 1999 cohort. According to SSACI data, the 1999 Scholar cohort's college-going rate (with pledges as the denominator) was 55 percent; its college-continuation rate (with affirmations as the denominator) was 87 percent.<sup>19</sup>

SSACI reports college-going rates for Scholars averaging 48 percent for cohorts 2000 through 2006, and college-continuation rates averaging 90 percent. In comparison, Indiana's overall college-going rate was 42 percent in 2004 and its college-continuation rate, 62 percent. So, no matter the source or method used for estimation, it is clear that Scholars enrolled in college at rates far higher than their classmates, even without taking into account their economic disadvantage.

### College choices

Analyses of the college-enrollment findings for the 1999 cohort indicate that, when differences between

<sup>19</sup> Computed from ICHE policy brief, 2007.

Scholars and non-Scholars were taken into account, Scholars were more likely than non-Scholars to enroll in public four-year institutions, public two-year institutions and out-of-state schools. (Figure 8, Page 19, column two of bottom section.) Scholars were less likely than non-Scholars to attend private institutions. Recall that, in this analysis, non-enrollment was an option more often taken by non-Scholars than by Scholars.

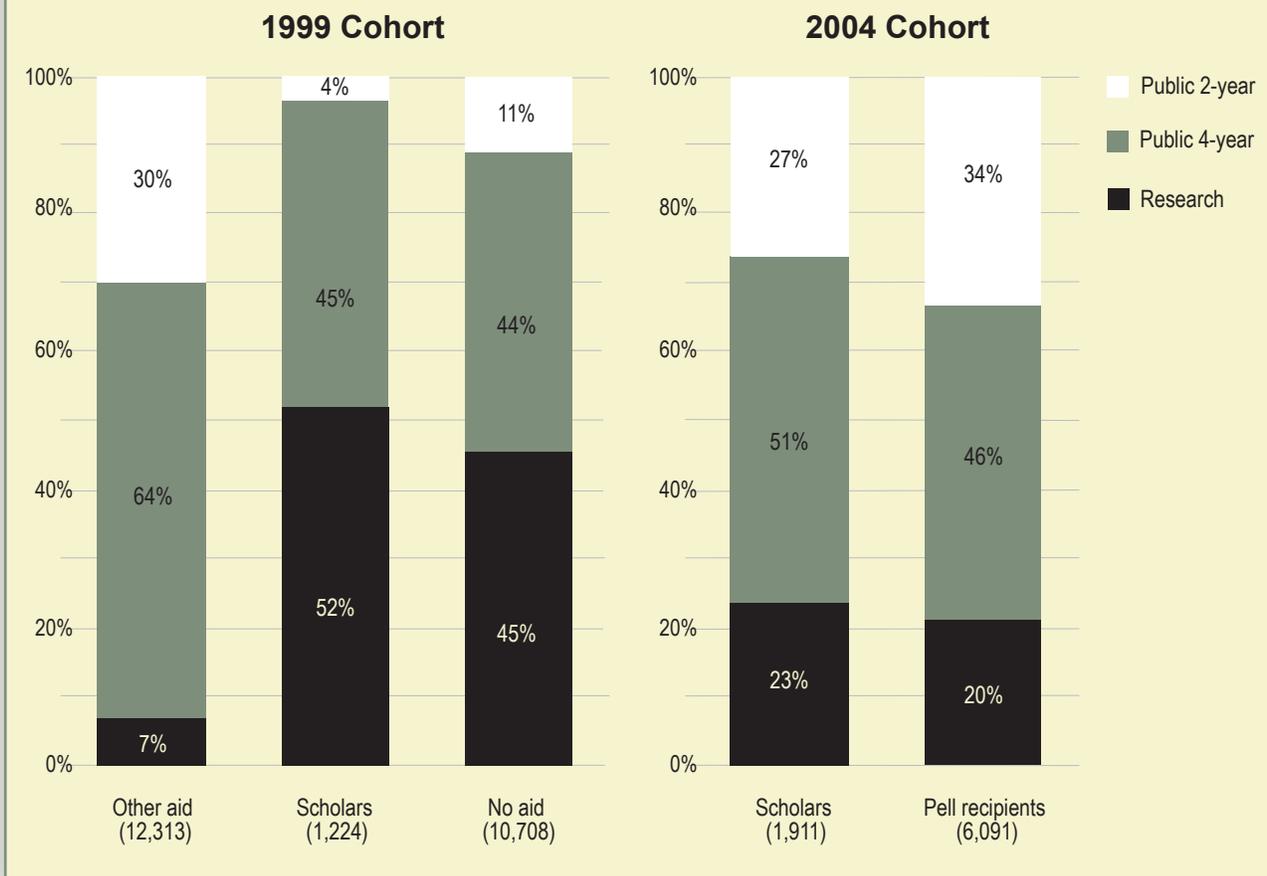
The 2004 cohort analysis (Figure 8, Page 20, column one) compared Scholars and Pell grant recipients who *did* enroll — specifically, in Indiana public colleges — and found that Scholars were more likely to enroll in research universities or four-year

colleges, while Pell grant recipients were more often found in two-year institutions (Figure 4). Accounting for other factors, differences between the groups were even greater than those evident in Figure 4.

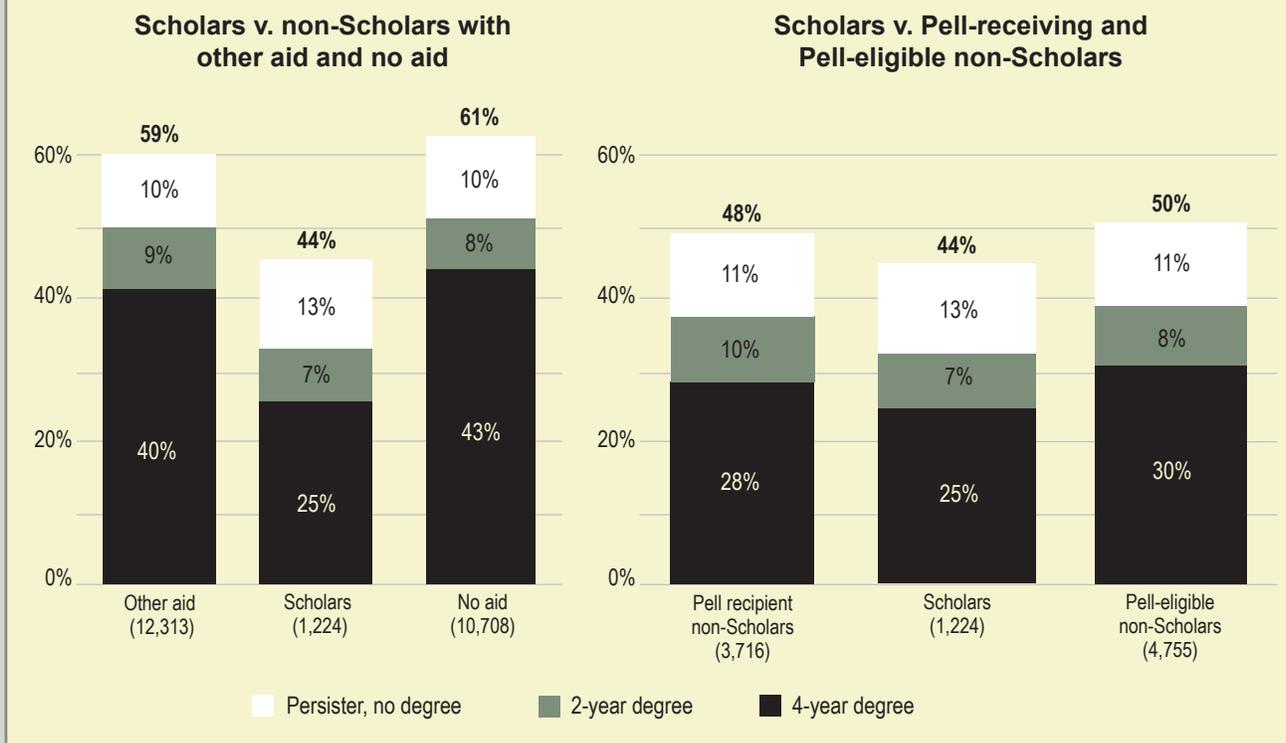
### Within-year persistence

The first follow-up of the 1999 cohort examined within-year persistence, as well as initial college enrollment. (Figure 8, Page 19, columns two and three of bottom section.) Because of data limitations, this was possible only for students who initially enrolled in Indiana public two- and four-year institutions and

**Figure 4: Type of public college in which students were enrolled the fall following graduation**



**Figure 5: Six-year persistence of students in the 1999 cohort who attended Indiana public institutions**



included only the Scholars who received Twenty-first Century Scholars grants: 786 Scholars in all, representing 69 percent of the 1,132 Scholars who initially enrolled.

Scholars' within-year persistence was 86 percent, compared to 89 percent for non-Scholar aid recipients and 85 percent for students who received no aid. Controlling for other factors, the superior persistence of aid recipients over students receiving no aid became more pronounced, while the difference between Twenty-first Century scholarship recipients and other aid recipients was found insignificant.

Though it is clear that Scholars enroll in college at higher rates than we would otherwise expect, this study was the first to raise the question of whether the Twenty-first Century Scholars program helps students stay in college through graduation. It seemed that aid

helped, but this study found that it was immaterial whether a student's sources of aid included Twenty-first Century Scholar grants.

### Six-year persistence

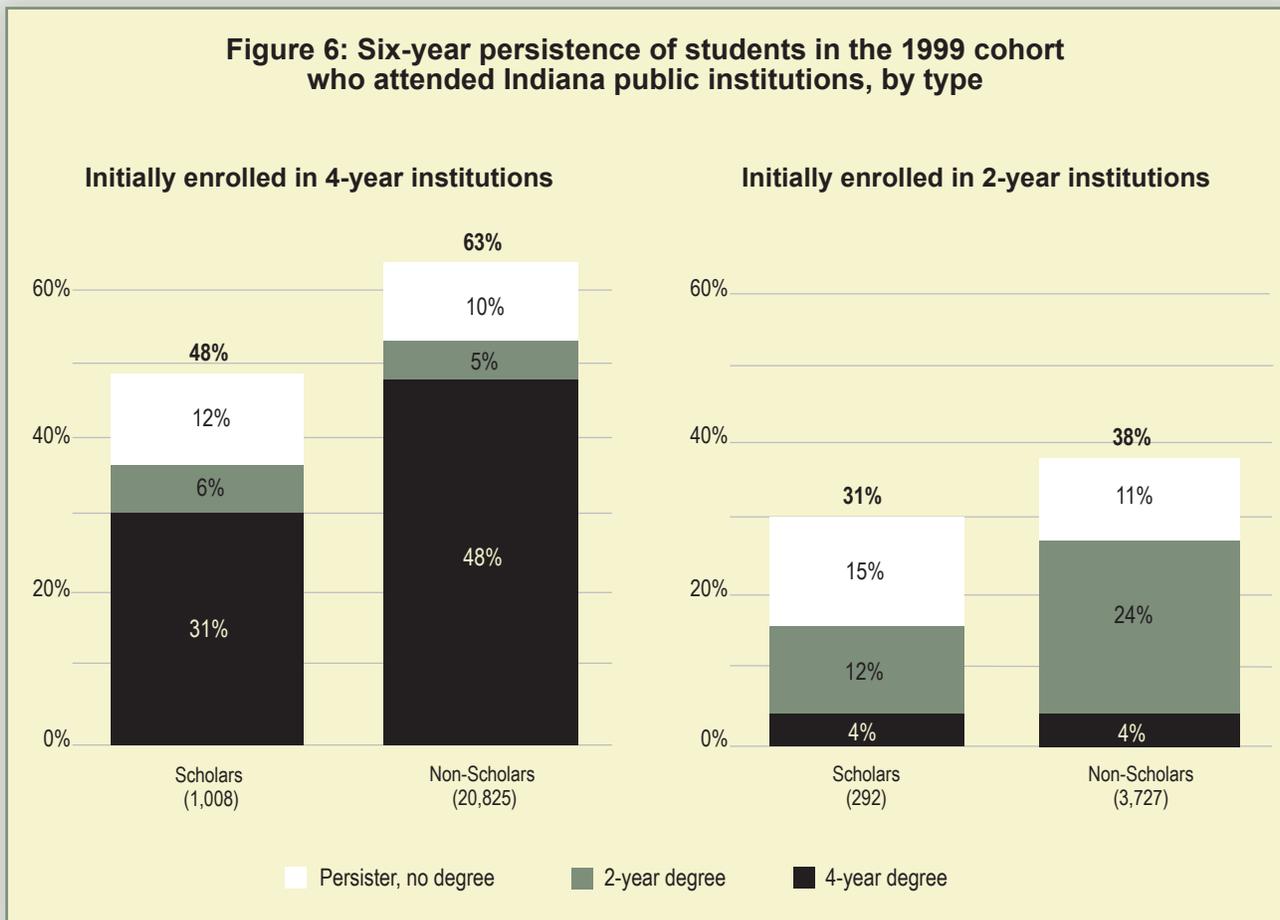
Meticulously merging and cross-checking several databases, the University of Michigan team followed up with the students who completed the ninth-grade survey in 1995 and subsequently enrolled in Indiana public colleges — a total of 1,224 Scholars and 23,021 non-Scholars. The researchers checked for three outcomes — four-year attainment, two-year attainment, and persistence without a degree — using four different comparison groups, as follows:

- All Scholars compared to non-Scholars with other grant aid.

- All Scholars compared to non-Scholars with no known grant aid.
- All Scholars compared to non-scholar Pell recipients.
- All Scholars compared to Pell-eligible non-Scholars.

The results are shown in Figure 5. Only a third (32 percent) of Scholars had earned a degree, and more than half had dropped out six years after graduating from high school.

However, when background variables (including college GPA) were taken into account, only one of the 12 comparisons shown in Figure 5 was statistically significant. Scholars were still less likely than other aid recipients to have earned four-year degrees.<sup>20</sup> The same data sets were analyzed using propensity score matching,<sup>21</sup> with similar results. Therefore, the University of Michigan’s study of the 1999 cohort offers no evidence that participation in the Twenty-first Century Scholars program improves college students’ chances of persistence to graduation.



<sup>20</sup> Scholars’ grades in college were substantially lower than those of the general student population, though about the same as those of other low-income students.

<sup>21</sup> Propensity score matching essentially takes each Scholar and finds a student in the comparison group whose answers to the ninth-grade survey were the same or similar. Only matched pairs are analyzed.

It has been argued that the 1999 cohort provides an unfair test of the Scholars program's effects on persistence because few of the program's on-campus support systems were in place in time to benefit those students. This argument is supported by a recent analysis conducted by the Indiana Commission for Higher Education of first-time, full-time bachelor-seeking students in the 1999 cohort who attended an Indiana public four-year institution.<sup>22</sup> In this more narrowly defined group, the Scholars' graduation rate was 34 percent, lower than that of all students (49 percent) but slightly higher than that of Pell recipients (31 percent). The most encouraging findings came from the four residential campuses, where graduation rates averaged 54 percent for Scholars, compared to 62 percent overall and 47 percent for Pell recipients.

The University of Michigan team provided the data shown in Figure 6 (Page 15), separating out students who initially enrolled in two-year public institutions from those who began in four-year publics. In this chart, all non-Scholars are combined, regardless of their income status or receipt of aid. We find that:

- Scholars lagged behind non-Scholars in persistence whether they initially enrolled in a two-year college or a four-year one.
- Persistence is much higher at four-year colleges.
- Only 4 percent of students who began at a two-year institution transferred to and later graduated from a four-year college within six years, a situation we would hope to improve with better articulation.<sup>23</sup>

To summarize, the University of Michigan studies indicate that the Twenty-first Century Scholars were more likely than their peers to:

- Pursue rigorous high school curriculum, as evidenced by studying higher mathematics and earning honors diplomas.

- Sit for the SAT.
- Enroll in college the fall after graduating from high school.
- Choose four-year colleges, especially research institutions, where graduation rates are the highest.

Still, once they get to college, Scholars fare worse than all other students combined and no better than other low-income students.

### Relating Scholar outcomes to engagement in pre-collegiate support

Despite the disappointing college persistence of the 1999 Scholar cohort, the evidence is compelling that low-income Hoosiers who take the Scholars pledge are more likely to spend their high school years taking preparatory steps leading to college and to enroll in college soon thereafter. The University of Michigan research team explored the importance of pre-collegiate support activities offered through the Twenty-first Century Scholars network (Figure 8, Page 20) by examining the relationships between engagement in the sites' activities and three student outcomes (each of which is examined below):

- Applying for financial aid.
- Type of high school diploma earned.
- Enrollment in an Indiana public college.

**Applying for financial aid as the outcome:** For the 2005 cohort, analyses correlated program participation with applying for financial aid. Altogether, 62 percent of the 5,575 Scholars in the 2005 cohort did so. There was no control group for this analysis; it involved only Scholars, 85 percent of whom participated in regional site activities to one degree or another. Financial aid application rates varied widely by support center —

<sup>22</sup> ICHE policy brief, 2007.

<sup>23</sup> An ambitious project to improve articulation between Indiana's two- and four-year institutions is under way.

**Figure 7: Engagement in pre-collegiate services**

2005 cohort (N=5,745)	% of Scholars
<b>Support site affiliation</b>	
• Regional centers	85%
• State site only	10%
• No affiliation	5%
2004 cohort (N=5,668)	% of Scholars
Enrolled in IN public institutions Fall 2005	
<b>Support site affiliation</b>	
• Regional centers	89%
• State site only	8%
• No affiliation	2%
<b>Engagement activities</b>	
• Scholar: counseling	59%
• Parent: academic preparation workshops	11%
• Parent: visits and events	37%
• Parent: career-planning and college-prep workshops	5%

analyses of the 2004 cohort, this time seeking relationships between program engagement and Scholars earning Core 40 and honors diplomas. This analysis involved only Scholars who were enrolled in Indiana public colleges in the fall of 2004 and a comparison group of Pell recipients.

As with the 2005 cohort, the researchers began by statistically clustering program-participation data. This time, four factors emerged, similar but not identical to those found in the 2005 cohort data. They are listed in Figure 7 to follow along with

from 51 percent to 81 percent. However, affiliation with any of eight of the 14 regional centers, compared to relying solely on the remote services of the central office, improved the odds of applying for aid.

Measures of participation in a lengthy list of specific program activities were statistically combined into three factors (clusters). One of these clusters was positively associated with application for financial aid: *Parental involvement in events and site visits increased the odds of applying for aid by 76 percent.* A factor representing parent participation in various educational workshops and another factor based on student participation in events, workshops and visits did not distinguish Scholars who applied for financial aid from those who did not.

**Type of high school diploma as the outcome:**  
The University of Michigan team performed similar

the proportion of students or parents who engaged in each activity grouping.

Only two significant relationships were found, and they were weak (at the 90 percent level of confidence). They were as follows:

- Affiliation with a regional center slightly improved Scholars' chances of earning honors diplomas.
- Parental engagement in career-planning and college-preparation workshops was positively associated with completing a Core 40 diploma.

**Enrollment in Indiana public colleges as the outcome:** The 2004 cohort analyses also looked for predictors of continuation — specifically, whether Scholars were enrolled in Indiana public colleges in fall 2004 — and found the following to be significant:

- Affiliation with any of the 14 regional centers compared to using the state center's services alone improved Scholars' chances of enrollment by 50 percent to 200 percent. Engaging in no program activities *decreased* the chances by 74 percent, although it is believed that some of these students went to colleges out of state.
- Student engagement in counseling services, which included personal counseling and career and academic advising, improved the odds of enrollment by 21 percent.
- Parent participation in events and visits, including college visits, improved the odds of enrollment by 18 percent.

LOW-INCOME HOOSIERS WHO TAKE THE SCHOLARS PLEDGE ARE MORE LIKELY TO SPEND THEIR HIGH SCHOOL YEARS TAKING PREPARATORY STEPS LEADING TO COLLEGE AND TO ENROLL IN COLLEGE SOON THEREAFTER.

- Further analyses revealed that participation in support center activities accounted for the difference. That is, Scholars whose participation was low did about the same as Pell recipients, while highly engaged Scholars were more likely to earn advanced diplomas.

Therefore, it is participation in services, not simply taking the Scholars pledge, that appears to draw students to more rigorous high school curricula.

The same pattern was found with enrollment in four-year (non-research) public institutions as opposed to two-year publics. Scholars were more likely than Pell recipients to choose four-year institutions.

The analytic approach may well have obscured stronger associations with particular activities or smaller groupings of activities. In fact, further analysis of the 2004 cohort — so painstakingly recorded — may well reveal more insight into what works best in the Twenty-first Century Scholars program.

However, a subtlety in the 2004 cohort findings sheds light on the centers' importance. By comparing Scholars in the 2004 cohort who enrolled in Indiana public institutions to Pell recipients, the Michigan team found that:

- Scholars were more likely than other Pell recipients to have earned Core 40 or honors diplomas.
- The difference increased with controls for ethnicity.

Controlling for student background characteristics increased the difference, and participation in support center activities accounted for differences between Scholars and Pell recipients. Again, it is participation in services, not simply taking the Scholars pledge, that appears to draw students to four-year rather than two-year publics.

However, the pattern for enrollment in research universities is more complicated, with completion of the Core 40 and SAT scores overtaking participation in program activities as predictors of choosing these institutions over a two-year college.

Equally compelling are the large differences among regional centers' outcomes, with "no regional affiliation" associated with the lowest rates of college application and enrollment. Further study is warranted to explore why some centers perform far better than others.

**Figure 8: Methodology of the University of Michigan studies**

<b>Studies to determine impact on college preparation</b>			
<b>COHORT</b>	<b>2000</b>	<b>2000</b>	<b>2004</b>
<b>Year published</b>	2008	2008	2008
<b>Outcome</b>	HS diploma type	Advanced math courses in HS	HS diploma type College type
<b>Students targeted in study</b>	IN HS grads, ages 17-19, enrolled in four-year IN colleges Fall 2000	IN HS grads, ages 17-19, enrolled in four-year IN colleges Fall 2000, who took the SAT	Scholars and Pell recipients enrolled in IN public institutions Fall 04
<b>Number of Scholars</b>	1,247	NA, but <1,247	1,911
<b>Comparison group</b>	Pell-eligible non-Scholars	Pell-eligible non-Scholars	Non-Scholar Pell recipients
<b>Statistical controls for...</b>	Student background, HS characteristics	Student background, HS characteristics	Gender, ethnicity, income
<b>Data sources</b>	SIS, IN Dept of Ed Web site	SIS, IN Dept of Ed Web site, SAT questionnaire for HS courses taken and student background	SIS, IN Dept of Ed Web site
<b>Studies to determine impact on college enrollment and persistence</b>			
<b>COHORT</b>	<b>1999</b>	<b>1999</b>	<b>1999</b>
<b>Year published</b>	2002	2002	2008
<b>Outcome</b>	College enrollment by Spring 2000 by type; actual for IN publics, estimated for IN privates and out-of-state	Within-year persistence	Six-year persistence Degree attainment Type of degree attained
<b>Students targeted in study</b>	All IN ninth-graders who completed a survey administered by ICPAC in 1995	All IN ninth-graders in 1995 who completed a survey and enrolled in IN publics in 1999	Freshmen enrolled in IN public institutions in 1999 who had completed the ninth-grade survey in 1995
<b>Number of Scholars</b>	2,097	786	1,224
<b>Comparison group</b>	All non-Scholars in the targeted group described above	All non-Scholars in the targeted group described above	All non-Scholars in the targeted group described above: (1) those receiving aid and (2) those receiving no aid
<b>Statistical controls for...</b>	Student, family and HS characteristics, excluding income	Student, family and HS characteristics, including income	Student, family and HS characteristics; college indicators, including GPA
<b>Data sources</b>	Survey of all IN ninth-graders in 1995, SIS for Scholar identification, SSACI for FAFSAs, IN Dept of Ed Web site	Survey of all IN ninth-graders in 1995, SIS, SSACI for FAFSAs and Scholar identification, IN Dept of Ed Web site	Survey of all IN ninth-graders in 1995, SIS for enrollment in IN publics, SSACI for FAFSAs and aid awards, IN Dept of Ed Web site

**Figure 8: Methodology of the University of Michigan studies, cont'd.**

<b>Studies to isolate effects of pre-collegiate support</b>		
<b>COHORT</b>	<b>2004</b>	<b>2005</b>
<b>Year published</b>	2008	2008
<b>Outcome</b>	HS diploma type, enrollment in IN colleges	Submit FAFSAs
<b>Students targeted in study</b>	Freshmen enrolled in IN public colleges in 1999 who had completed the ninth-grade survey in 1995	12th-grade Scholars
<b>Number of Scholars</b>	1,224	5,745
<b>Predictors</b>	Program engagement (4 factors), Regional site	Program engagement (3 factors), Regional site
<b>Data sources</b>	SIS, SSACI records of participation in activities	FAFSAs, SSACI records of

# PURDUE UNIVERSITY

## PRE-COLLEGE PROGRAMMING STUDY: WHAT WORKS FOR SCHOLARS AND THEIR FAMILIES

**T**he study of pre-college programs was conducted by two faculty members and three additional researchers affiliated with Purdue University's Department of Counseling and Development in the College of Education. Two staff members from Student Access, Transition and Success Programs (SATS), a department within Enrollment Management at Purdue University, helped coordinate the study. The SATS department staff work on several programs related to college student success and access to college, including hosting one of the 14 Twenty-first Century Scholar support sites. The faculty members recruited two graduate students and a graduate of the program who had recently received her doctorate in counseling psychology to serve as researchers and focus group leaders.

The evaluation of the pre-college Twenty-first Century Scholars Program consisted of the following:

- An online survey completed by 14 site coordinators, seeking information about the services they provide and their opinions of what is most beneficial to Scholars and parents.
- Focus group interviews with 123 Scholars and 112 parents at 10 sites selected for their varying demographics. Scholars ranged in age from 13 to 18; 75 were Caucasian/white, 46 African American/black and 2 Latino/Hispanic. Ninety-one of the parent focus group participants were Caucasian/white, 20 African American/black and one Latino/

Hispanic. Overall, males and females seemed evenly distributed among the groups.<sup>24</sup>

Although a random sample of Scholars and parents would have been optimal, all focus groups were based on those who attended voluntarily in response to the letters of invitation sent by the site coordinators. The findings, which were overwhelmingly positive, may be a reflection of those who attended — individuals who tended to be highly involved.

The Purdue researchers' key findings were clustered into three overarching themes (each of which is explored in some detail in the following pages):

1. Relationships forged in the pre-college portion of the program were a driving force in Scholars' access to and success in college.
2. The program excelled in "making the unknown known," imparting information to students and parents that proved vital to Scholars' success.
3. Scholars and their parents demonstrated "hardiness," a critical component of personal well-being and a predictor of success.

This report will examine each of these themes in turn.

**1** Purdue's researchers found that the relationships developed and nurtured in the Scholars program were a driving force behind pre-college Scholars' access to and persistence in the Twenty-first Century Scholars program. In fact, site coordinators believed relationship building was the most important aspect of their work. Relationships were defined broadly here — those between parents

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<sup>24</sup> Based on Scholars whose ethnicity and gender were reported, recent data from ICHE suggest that white Scholars were slightly underrepresented in the Purdue study, and black Scholars and males were somewhat overrepresented. (Indiana Commission for Higher Education, *Higher Education Policy Brief, Indiana's Twenty-first Century Scholars Program: A Look at Impact*, p.5.)

and Scholars, one parent with the other, Scholars with each other, parents and Scholars with site staff, etc. The data were clear that Scholars benefited abundantly from these relationships, as evident in the words of one site coordinator:

*"Building relationships with the Scholars and their parents is the number one key element to building trust with them and keeping them connected."*

### Benefits of parental involvement

According to staff, parents and Scholars, the involvement of the Scholars' parent(s) or guardian(s) in the program is the key to the Scholars gaining access to the Twenty-first Century Scholars program, as well as to persisting in it. Site coordinators also believed that parent/guardian support and involvement were vitally connected to eventual success in entering college. They wished that all parents could see what a difference their involvement could make to the success of their children.<sup>25</sup>

When parents were actively involved, they clearly integrated the goals of the program into their support and encouragement of their children. First, parents took the lead in enrolling their children in the program even though they weren't entirely clear what all was involved. They could see benefits of the program to their children's future — benefits that their children were still too young to fully grasp. Once involved in the program, it was clear that the program gave parents more to talk about with their children and that their children's schooling and futures were frequently discussed topics. Accordingly, one coordinator said: *"They must be active Scholar parents, this is a partnership."* One parent poignantly put it this way: *"[Parent involvement] is the key to any child's*

*education. Parents must be involved, especially since we are their first teachers."*

### Importance of the site coordinators' work

Parents in the focus groups reported that they valued their relationships with the sites and site coordinators. Those who had been active in the program activities and parent meetings noted that they had built positive relationships with site coordinators, and they felt staff members were always supportive and available. Scholars spoke less about this but did relate some anecdotes that emphasized how particular site coordinators had offered them important information and encouragement.

Site coordinators were concerned that funding cuts have reduced their ability to connect with Scholars and parents/guardians. As noted, recent cuts in the program's administrative budgets have reduced staffing and forced the closure of two regional sites. These cuts, coupled with an increase in the number of Scholars, have limited — or at least strained — the staff's ability to maintain these important relationship-building activities. Most coordinators reported that their staff members (including office managers) have stepped up to be responsible for additional areas of programming but that there really were not enough people to cover everything effectively. Others reported losses of activities and relationship-building opportunities:

*"The number one thing that makes a difference in the lives of Scholars is relationships, and it's hard to build relationships when you do not have the time and staff to spend with the Scholars and their families."*

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<sup>25</sup> The term "parents" here and throughout this section is meant to convey the individual(s) who have responsibility for the Scholar. In many cases this is a guardian, often a grandparent or other relative. It may also be another caretaker, such as a group home leader or a foster parent.

## Benefits of peer relationships

Most parents had no prior experience with higher education, so they tended to feel some intimidation as they approached the program. However, learning there were others who felt the same way was comforting. This is one of several reasons parents particularly valued the opportunities they had to interact with and support one another. They saw the relationships they formed with other parents as a definite benefit.

Parents who gave feedback valued the opportunities their children had to form friendships with others who were focusing on the future and hoping to do something valuable with their lives. The Scholars also had come to realize the benefits of being with positive peers. Parents knew their children had some relationships with peers that were not positive, but they felt the Scholars program countered that by offering healthy activities with more positive students. This is something parents appreciated, as expressed below:

*"If you're here, there's a goal. . . . this program puts them around positive, like-minded people of their age group. . . ."*

*"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."*

**2** Purdue researchers also found that the Twenty-first Century Scholars program excelled at imparting information vital to the

Scholars' success; it helped in "making the unknown known" to Scholars and their parents so they could proceed with confidence.

## Benefits of site activities

One of the most commonly expressed attributes of the Twenty-first Century Scholars program is that it presents to Scholars the possibility of a broader, more promising future. The program 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. In turn, the program opens Scholars' and parents' eyes to the opportunities and possibilities that exist for them. It includes — but is

more than — preparation for careers that had not been considered. It puts options within reach that previously seemed impossible. The following quotes, the first from an adult's perspective, the second from a Scholar's, illustrate this idea well:

*"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."*

*"It's opened me up and given me a broader view of what I can do, and just the incentive has really made me want to work hard towards a goal like that and stay in line with it and not stop."*

According to Scholars and their parents, the college visits, by far, were the sites' most meaningful activities, largely because they opened Scholars' eyes to some of the realities of college. Scholars spent time touring a campus, visiting classes and residence halls, speaking with Scholars who are students there, talking with counselors and even staying overnight to get a taste of college life. Parents came to realize that the visits helped to make plain the very messages they had been trying to deliver to their children for some time: College means responsibility! One parent put it well:

*"When we got home I said, 'What did you learn today?' He said, 'I learned that college costs a lot of money and that we have to work really hard.' Those were the two most important things that Mom had been saying over and over and over again ... and the fact that it's his responsibility. Those are the three things he learned, and, again, I've been saying those things forever."*

The Scholars also found the campus visits very helpful as they tried to picture themselves at college. The experiences gave them an eye-opening understanding of what it would be like on campus. In addition to college visits, the sites offer a broad range of valuable activities — programs to prepare Scholars for interviews, to build pride in their heritage, to make a difference in the world, and much more. Further, the program provides activities that give parents crucial information on the college process. Each of these program activities seemed to play an important role in ensuring that Scholars and their parents had the information they needed to make college enrollment and success tenable.

THROUGH THE PROGRAM'S INFORMATION AND SUPPORT, THE PARENTS BELIEVED THAT THEY HAD GROWN TO GUIDE AND ENCOURAGE THEIR CHILDREN MORE MEANINGFULLY.

Parents believed that being connected to the Twenty-first Century Scholars program had helped them be better parents. Through the program's information and support, the parents believed that they had grown to guide and encourage their children more meaningfully. They also felt that the program staff members were collaborating with them in the parenting of their children. As stated by one parent, there was a quality of "standbyness" on the part of the program, wherein program staff members stand with parents to give them help — help that is highly valued.

*"It's like you're behind us parents: 'This is what we can help you with to help your child achieve his goal, and we won't let you down as long as we are all working together as one.' And that is what a community needs, someone there to help to keep the child focused."*

As parents and Scholars learned more about the program, their anxiety eased about how they could afford the high cost of college. It is here that the Scholars program makes possible what had often seemed impossible. "Relief" and "less worry" were how most parents and Scholars characterized their feelings as the impact of the program on college costs was explained to them.

*"The Twenty-first Century (Scholars) program gives you that key thing that you don't have to worry about. It's a big load off. I know [my son] can go to school. I KNOW he can go to school."*

Even though the program eases some worries about college costs, Scholars and their parents still reported unease about the prospect of college. Parents expressed fears such as whether their children would

truly have enough money, whether getting a job would be necessary, and, if the latter, how the student could balance all of the responsibilities. Parents also expressed worry about their Scholars' safety (i.e., fears about recent outbreaks of violence on college campuses) and whether their children were prepared to make wise decisions. Scholars expressed fears such as:

*"The hardest part will be to stay focused. You stay focused and do what you're supposed to do, and you'll be fine. You get distracted, which is very easy to do, and you start to fall back."*

*"One thing that worries me a lot is, I want to be great, you know? And it's really hard to say that because, when you go to college, there's so many, it's so diverse, there could be anyone that's so much better than you."*

*"You're losing your community. I'm losing my church, and I'm losing my family and my neighbors. It's going to be hard because you don't know anybody."*

**3** The third overarching theme apparent to Purdue researchers was that Scholars and their parents demonstrated "hardiness" — a general construct within the psychological literature that is positively associated with many aspects of well-being. "Hardiness," in this context, consists of three core components — challenge, commitment and control. The qualitative data collected during focus groups indicated that Scholars and their parents demonstrated all three of these core components.<sup>26</sup>

## Challenge

Scholars expressed an attitude of challenging themselves — of expecting a lot of themselves even when others didn't perceive them as capable. They also expressed views that they are different from many of their peers in their desire to challenge themselves. Scholars illustrated their desire to do well and their differences from some of their peers as follows:

*"You know, if you really want something you're going to work for it, so I think if you really want to earn your scholarship then you can get there, just use your resources of tutors and budget your time."*

*"Sometimes I sit in math class, and math class is only like 45 minutes long, and kids are messing around, and I'm like: 'Isn't this a math class?'"*

Additionally, parents expressed the idea of wanting more for their children than they themselves had, and how their children have internalized those goals. Parents saw their children challenging themselves within and outside the program, and they said they tended to encourage their children to face challenges on their own — offering support but letting their children handle the actual challenge.

*"My kids want a better future than what we had. I mean, they want something that they can look back on when they get to be my age and think they've accomplished something. They've lived through some pretty rough times financially, and they don't want that, but even my sixth-grader, she's like: 'When can I get into the scholarship program?' She knew what she wanted to do in kindergarten, and she's waiting to get in."*

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<sup>26</sup> Kashaba D.M. & Maddi, S.R. (1999). "Early experiences in hardiness development." *Counseling Psychology Journal: Practice and Research*, 51(2), p.p.106-116.

*"I want him to go. We have to encourage our children to go to college, to get a better life than we had."*

## Commitment

Scholars and parents both identified the pledge and the Scholars' commitment to the pledge as important aspects of the program that enhanced Scholars' ability to stay focused and to aspire to attend college. This demonstrates one important facet of the "commitment" component of "hardiness" — that which pertains to individuals having the ability to become significantly involved in or committed to activities in their lives. The following illustrates how Scholars spoke about the pledge:

*"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..."*

Although parents often take the lead in enrolling Scholars in the program, comments from Scholars and parents suggested that there is a point where Scholars must make the personal commitment to stay involved. Comments suggested that this point in time is at the start of high school — what is generally viewed as a potentially sensitive period with respect to future educational persistence and attrition.

## Control

Parents gave examples of their children taking control of situations, and a few Scholars described situations where they took action to get their needs met. Individuals who possess the control component of hardiness believe that they can control and influence their life experiences. They seek opportunities to act, and they follow through on those opportunities. One example follows:

*"I remember my freshman 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."*

Parents also spoke about the control component of hardiness in terms of seeing their Scholars taking the kind of action consistent with the overall goals of the program. They also attributed the development of self-advocacy and control to participating in the Twenty-first Century Scholar program:

*"He had a schedule [problem] the other day and he said, 'You have to go talk to my counselor because she's got a problem.' I said, 'Why?' 'Because she put me in business math. I already passed geometry, so why did she put me back in business math? I can do better than that.' And, I thought: 'Cha-ching!'"*

In conclusion, this body of research underscores the very significant role that regional sites play in empowering parents to guide their children effectively through high school and into college. The research also emphasizes the many benefits the Scholars derive from participating in regional site services: understanding why it is important to take certain courses, learning to advocate for the right to take those courses, focusing on their goals, being surrounded by a positive peer group and visiting campuses. Parents and Scholars who take advantage of regional site services appear to emerge more "hardy" — more committed to the goal of college, more willing to rise to the challenge of making college happen, and more in control of how to make it happen than they were prior to the program. Finally, the program itself — with its promise of defraying tuition — gives parents and their children real hope that college can indeed be on the near horizon.

# IUPUI

## HIGHER EDUCATION PROGRAMMING STUDY: SERVICES AND NEEDS OF SCHOLARS IN COLLEGE

**T**he study conducted by researchers in the Indiana University School of Education at IUPUI's Center for Urban and Multicultural Education (CUME) focused on Scholars' experiences at college and their involvement in college transition and support activities. The research team examined the roles, responsibilities and collaborative efforts designed to support Scholars from the perspective of college/university administrators and staff. The team then conducted a series of focus group discussions and individual interviews with Scholars who persisted in college to better understand their actual experiences.

A total of 204 Twenty-first Century Scholars from 13 Indiana campuses participated in focus groups and interviews. Fifty-five percent were enrolled in their first year of college. Participants were 62 percent white, 25 percent African American and 5 percent Latino; 7 percent self-identified as Asian, Native American or multiple racial categories. The largest group of participants was from IUPUI (50), with 38 from the University of Evansville, and 30 from Indiana State University. Focus group participants from each of the other participating campuses numbered 15 or fewer.

Among university administrators and Scholars alike, communication was consistently viewed as both an important element and a persistent challenge of the Scholars program.

### Pre-college communications

Pre-college communications — which consisted primarily of letters to home or school during middle school, high school and throughout the admissions process — were described by many Scholars as more than adequate. One student, for example, offered that he “was constantly getting letters in the mail

throughout [his] senior year.” Conversely, a number of students reported receiving no contact at all. This finding points to the differing experiences students have with the program prior to college and raises the question of who gets access to information and services.

Students also often found the communications less than satisfactory — particularly communications related to procedural issues on admissions and financial aid. From a complete lack of information to frustrating, repeated efforts to obtain information, these students reported a general disorganization and lack of coordination among campus offices.

University and college personnel said it was a major challenge simply to identify Scholars. Without mechanisms in place to inform administrators who the Scholars are, merely recruiting Scholars to participate in support services becomes quite difficult.

### Campus communication challenges

Typically, administrators reported some difficulty in receiving information about Scholars from the Twenty-first Century Scholars central office, financial aid records and/or enrollment management services just to determine the identities of Scholars. Most suggested that another, more efficient way to exchange information must certainly exist.

The Scholar-identification problem was more evident on some campuses than others. Comments from two separate administrators illustrate this point:

*“I haven't been able to separate them out as far as coming into the programs, outside of getting to know them and talking to them.”*

*"I think that is probably one of the biggest frustrations. We don't know who our Twenty-first Century Scholars are. I've been given this as a partial job responsibility. This is now the second year, and I have consistently asked for information about who [these students] are. So far, any list that I have is virtually not usable."*

Administrators also reported a lack of effective communication strategies with Scholars, most notably the challenges surrounding e-mail. Compiling the list of Scholars presented the first challenge in and of itself, but translating that list into usable e-mail communication presented the next. Administrators were not confident in the reliability of their e-mail contact lists — and even less so in their students' diligence in checking e-mails. One summed up the challenge this way,

*"I think that the other challenge that we all face is actually contacting the Scholars. The ones that we can identify, we are able to get e-mail addresses. However, then you run into the problem that especially some students don't like to check their e-mail, their school accounts. So you are running into that contact problem of making sure the information gets out there... It is a struggle."*

## **Campus communication of service information**

Communication also appeared to be a major roadblock in both advertising and designing services that directly address the needs of Twenty-first Century Scholars at the campus level.

Administrators described both increased and intensive efforts at communicating with Scholars.

While the identification of Scholars remained an issue for campus-level administrators and staff, once on campus, new issues arise for Scholars and administrators with regard to communicating both service and programmatic information.

It became evident that communicating with Scholars does not end with the technical and programmatic aspects of the Twenty-first Century Scholars program. Advisers, student mentors and administrators described the need for multifaceted conversations that included continual information and

support to ease the transition to college life for these students and to address their personal and psychological needs.

Campus-level service providers expressed concern

that they did not clearly understand the scope of Scholars' needs — yet another manifestation of communication issues. One example of this concern is articulated in the two quotes below:

*"As an organization, we need to do something [to work on retention], and no one really knows what that something is because no one knows who our students are. Therefore, we can't ask them what they need, and I hate to develop something unless it is going to address a need. We could always have a big glossy brochure and have it everywhere. And again, [the problem is] not knowing what our students need."*

*"Do they truly just need someone who can help them navigate the system? Until we know who they are and can assess their needs, I am not inclined to develop a whole bunch of programs until we know what it is that could help the Twenty-first Century Scholars."*

COMMUNICATION ALSO APPEARED TO BE A MAJOR ROADBLOCK IN BOTH ADVERTISING AND DESIGNING SERVICES THAT ADDRESS THE NEEDS OF TWENTY-FIRST CENTURY SCHOLARS AT THE CAMPUS LEVEL.

Whether students feel positively or negatively about being publicly identified as a Scholar further complicates communications. The majority of Scholars in the focus groups were proud to be known as Scholars, viewing the “title” as an acknowledgment of their hard work and accomplishments. Conversely, a smaller group of Scholars reported a sense that their peers and some faculty viewed the scholarship program as a stigma of their low socio-economic background. These Scholars often spoke of avoiding identification with the program, perhaps fearing that openly acknowledging their status as Scholars might cause them to be personally stigmatized as well.

## University-wide support services

Colleges and universities in the study provide a balanced set of university-wide academic, social and organizational student support services.

Nearly all schools in the study offered an array of such services, including summer orientation, math/writing labs, tutoring (often free), supplemental instruction and learning community programs. In addition to these academically focused programs, colleges reported that they offered voluntary workshops on time management, money management and social functions to promote student integration with the campus. At the same time, the availability of services varied significantly from campus to campus. While orientations were generally mandatory and well attended, other support services — particularly summer bridge programs, learning communities and mentoring — were voluntary, recommended or specifically limited to groups of students.

THE MAJORITY OF SCHOLARS IN THE FOCUS GROUPS WERE PROUD TO BE KNOWN AS SCHOLARS, VIEWING THE “TITLE” AS AN ACKNOWLEDGMENT OF THEIR HARD WORK AND ACCOMPLISHMENTS.

Most support services were allocated to ease transition to college and were front-loaded in the first year of college. One administrator spoke about the importance of the connections the students make with people in the learning communities by stating the following:

*“I had a student yesterday that I had in a learning community. This happens with a lot of advisers. You meet these students that first year — that first semester when they are in the learning community. They get connected to you, and that is where they want to be. I had one yesterday who called me. I had him in my learning community semesters ago, and he will not go see anyone else.”*

## Scholar-specific support services

While there were many commonalities across the campuses when it came to university-wide supports, Scholar-specific programs were notable for the differences in their approaches. These differences ranged from some colleges identifying no specific support programs to a few campuses that combined specific financial and programmatic opportunities to engage students academically and socially.

A few campuses indicated that they had no specific programs in place to work with Scholars on campus. However, each of these campuses identified a staff member with other student support service responsibilities as the contact person for communicating with Scholars. Two of these individuals also directed multicultural support programs at their colleges.

On the other hand, many schools, particularly those that received funding from Lumina Foundation

for Education to develop programs to serve this purpose, appeared to have Scholar-specific services. One campus, for example, had two part-time Twenty-first Century Scholars coordinators. They spoke about the 12-step plan they have for the Scholars at their campus when they said:

*"I think it's really a good thing to have a dedicated person, because what we've done is develop a prototype of 12 steps to have success in school. We lay out those steps so that when we first meet with them, we talk to them about what that process is — everything from orientation to having a written academic plan, having a written career plan and having a written financial plan."*

The most commonly noted Scholar support service was a mentoring program. With only a few exceptions, the campuses in the study sponsored or had previously sponsored a mentoring program. The two campuses that did not sponsor a mentoring program cited lack of funding as the reason for the program's discontinuation. The mentors were generally upper-level Scholars, and they were trained and paid to work individually or with small teams of Scholars.

Scholars were typically appreciative of the efforts of their mentors and felt that having a mentor helped them to be successful during their first year. One student described the positive impact of having a mentor this way:

*"I think having a mentor really helped me out. My fall semester I finished with 3.0 . . . and I realized: 'Oh my gosh, I can't do this.' There are kids who do much worse their first semester, but I had a 3.4 that spring semester because I had a good mentor, and I was changing what I was doing."*

Administrators added that Scholars felt mentoring and peer-support programs provided significant academic and social skill development. One administrator noted:

*"Successful programs are able to bridge campus-level student support services with their own targeted efforts around serving Scholars; integration is the key."*

*"Every campus needs a support site for college students who are Scholars."*

Despite the generally positive views expressed about student support services offered as part of the Scholars program, assessment data were rarely used to gauge the impact of specific services or identify areas for potential growth. Incoming admission statistics, grades, attendance at sponsored workshops and participation in campus support services tend to be recorded, but no systemic regimen of data collection exists for Scholars as a whole.

**SCHOLARS AND ADMINISTRATORS REPORTED THAT, IN SPITE OF THE PROGRAM, MANY SCHOLARS FACE FINANCIAL ISSUES THAT CONTRIBUTE TO CONFLICTING RESPONSIBILITIES BETWEEN SCHOOL, WORK AND FAMILY.**

### **Financial needs of Scholars**

According to students, financial support from the

Twenty-first Century Scholars program was integral to their approach to schooling in high school and their ability to attend college. However, Twenty-first Century Scholars and administrators reported that, in spite of the program, many Scholars face financial issues that contribute to conflicting responsibilities between school, work and family.

A smaller but not insignificant number of students described financial support from the Scholars program and other added funds as a safety net that afforded them time to focus on their studies. One student

stated: "I didn't have to work as much. It gave me more time to study, and I got a job at the writing center about 12 hours per week."

Financial support, above and beyond the last-dollar scholarship provided by the state, varied across campuses. A few campuses provided money toward books and/or room and board. One school directed the extra funds toward a subset of high-achieving Scholars. An administrator explained, "You get the tuition covered by being part of the program. If you finish with a 3.0 GPA coming out of high school, we will give you \$1,500 towards housing and a \$25-per-semester book voucher." Another campus provided extra money on the campus credit card (\$50) and a \$250 book voucher for Scholars who participated in mentoring programming. This same campus offered Scholars an additional \$1,000 award if they attended the two-week optional summer bridge program.

Administrators described financial resources as a challenge for many of their students, and specifically a salient challenge for the Twenty-first Century Scholars. Colleges felt the financial strain of limited resources available to adequately address the needs of all students. One administrator put it this way: "There needs to be more staffing and more monetary support to do that staffing. There are kids who are missing out."

On the positive side, it was clear that students valued the financial support of the program. One student statement reflects this viewpoint well: "It (the scholarship) relieves so much stress off your families." Another student echoed the need for the scholarship program:

*"It is a very important program because a lot of people in Indiana do not have any other means out there. People in my neighborhood, in my city, in my community — a lot of them are at the bottom end of the spectrum when it comes to resources and everything. They really need that assistance."*

On the other hand, students across the study indicated that insufficient financial resources posed a major obstacle to their academic success in college. They recognized and valued the Twenty-first Century Scholarship, but reported persistent concern about the costs associated with being a full-time student, including the high cost of books, housing and living expenses. In order to pay these costs, many students had to borrow (through guaranteed student loans, federal Parent PLUS loans, private loans — even credit card debt). The following comment from a Scholar is telling:

*"They are already telling me how much interest I am going to have to pay in the next year. I have to pay back my loans that I didn't want to get in the first place, but I needed them for my school books."*

Regardless of whether colleges offered additional financial support, administrators described their efforts to identify on-campus work opportunities for Scholars as one means to ease financial concerns. One administrator bluntly stated: "For the kids themselves, most of them desperately need money."

A few administrators pointed to a lack of financial literacy on the part of college students generally, particularly among Twenty-first Century Scholars. They told stories of students getting large financial aid refund checks at the beginning of the semester, not budgeting properly, and then running out of funds before the end of the semester.

College administrators also worried about students working too many hours while attending school full time. The amount of time working varied within and across campuses, but students' self-reports indicated that the vast majority of them worked between 15 and 25 hours weekly.

A comparison of students' and administrators' perceptions revealed that administrators tended to overestimate the number of hours students worked

per week. More research is needed to understand the amount of time Scholars spend in off-campus employment.

Not surprisingly, students who worked full time reported significant challenges in balancing their multiple responsibilities. Often, they were either the primary breadwinners in their households or were caring for siblings or ailing family members. One student spoke about the difficulties of balancing school and work when he/she said, "I was going to school from 8-11 and then working 1:30 to 10:30 every day. I had to ask for Sundays off just so I could catch up on school work."

Administrators at many of the two-year and primarily commuter campuses indicated that the majority of their students work and go to school. One administrator said: "Most students do have some sort of employment. I would say 70 to 80 percent."

Family and living circumstances sometimes require Scholars to make difficult decisions about how they spend their time. For example, one Scholar said:

*"I was living with my mother, and all this time I wish I could just move out because every single problem that my family has — they always seem like they want to involve me in the problem. I just want them to let me do my homework, but you can't because you have other priorities. I don't know how to juggle them all, and it starts to go down on you. I can't sleep right."*

WHILE NOT ALL TWENTY-FIRST CENTURY SCHOLARS ARE FIRST-GENERATION STUDENTS, MOST ARE ONE OF THE FIRST, IF NOT THE FIRST IN THEIR IMMEDIATE OR EXTENDED FAMILY, TO ATTEND A COLLEGE OR UNIVERSITY.

## Parental involvement

Efforts to involve parents in the Scholars program's activities varied by campus and region, and students reported a wide range of parental knowledge and understanding of the college experience.

While not all Twenty-first Century Scholars are first-generation students, most are one of the first, if not the first in their immediate or extended family, to attend a college or university.<sup>27</sup> According to

administrators, this can pose unique challenges. They say that many Scholars arrive on campus lacking information about college that many second- and third-generation college students take for granted.

While talking about first-generation students, one administrator stated:

*"... Disproportionately, Twenty-first Century Scholars students can't call Mom and say: 'I really royally messed up my physics exam and have no idea what to do.' Mom doesn't have any idea what to do either. Most of the parents stopped being able to help their kids with math a long time ago."*

Many parents became involved and informed about college along with their children by attending regional sites or campus-based workshops. For example, one such program specifically targets parents, as this comment illustrates:

*"We are trying to incorporate parents into our program because that is one of the things that is needed... I know from*

<sup>27</sup> In a recent presentation by the Indiana Commission for Higher Education, it was reported that 58 percent of "affirmed Scholars" — dependent students filing the FAFSA in 2005-2006 — were first-generation college students.

*working with athletes that, if we are working together with the parents, the students are going to be doing better. Also, we are letting the parents know what we are doing, knowing and understanding what the program is."*

Another administrator indicated that the decision to attend college was one that the student and the family make together. "Mom and Dad come in with those students," he said, "because this is a family decision to go to college. The whole family comes in." Still, once the joint decision is made to enroll, parents of first-generation students are often unable to offer much practical help with the sometimes-difficult realities of college life.

## **Summary of findings**

Overall, the IUPUI study demonstrates that communication remains a major challenge for the

Scholars program at the campus level. At some schools, it is a problem simply to identify the Scholars (incoming and continuing). Other colleges have developed significant outreach opportunities to local and statewide secondary schools in hopes of building and maintaining effective communication networks.

Once on campus, Scholars have an array of support services open to all students — although services for students differ according to each school, as do programs specifically designed to serve Scholars. Programs tend to include learning communities, first-year experience courses, supplemental instruction and summer bridge programs that focus on supporting students' transition from high school to college. Students and administrators expressed the need for additional academic, social and financial support beyond what is now provided.

# CONCLUSIONS

Indiana's Twenty-first Century Scholars program has become widely recognized as a constructive model for encouraging college preparation and enrollment among low-income students. The program is also recognized for improving college affordability and, more recently, for its focus on developing support services at the postsecondary level to improve college success. The studies funded by Lumina Foundation and summarized in this report were designed to shed light on the effects of the program and how it might be made even more beneficial. To summarize major findings, we turn to our key evaluation questions and look especially for areas where data from the various studies converge and reinforce one another.

## **What can we glean from our quantitative studies to date to inform us about the program's effects on Scholars? What do the studies tell us about persistence to a college degree?**

It is heartening to evaluate a program in which the data show that the original program purposes are being achieved. Findings from the University of Michigan studies of multiple cohorts are particularly useful to understanding what the Twenty-first Century Scholars program is accomplishing now and what it might be able to achieve in the future. Among other findings, we learned from these studies that, for students in the 2000 cohort, being a Twenty-first Century Scholar increased the likelihood of being better prepared for college entry. Specifically, being a Scholar was positively associated with the following:

- Pursuing rigorous high school curriculum, as evidenced by studying higher mathematics and earning honors diplomas.
- Sitting for the SAT.
- Enrolling in college the fall after graduating from high school.

- Choosing four-year colleges, especially research institutions, where graduation rates are highest.

However, the performance of Scholars on the SAT was in the mid range of Indiana scores. This is an area that needs further examination if Scholars are to become more competitive in college.

In their analysis of the ninth-grade survey and college databases, the 2002 research team looked at the 1999 cohort and learned that:

- Scholars had a total estimated college-going rate (from ninth grade to college) of almost 85 percent.
- Scholars were more likely than non-Scholars to be in college within four years after ninth grade.
- Nearly half of the young people enrolled in the Scholars program as ninth-graders were enrolled in public four-year colleges.
- Even without accounting for barriers associated with low family income, Scholars' college-going rate exceeded that of Indiana residents as a whole.

From the above, we can conclude that the program is having a variety of positive effects on Scholars' high school education and preparation for college and is most definitely improving their access to college. Yet, in spite of being better prepared for college than similar groups, Scholars' degree attainment was disappointing. Only one-third of Scholars in the 1999 cohort who enrolled in public colleges had earned a degree within six years of high school graduation. More than half had dropped out.

Persistence and degree attainment at the various types of colleges and universities deserve further study as institutions become better educated about and more proactive in supporting Scholars. When the 1999 cohort entered college, few services were in

place. However, over the past several years, Lumina Foundation has made grants to enable some colleges and universities to do more for Scholars. In addition, twice-yearly educational sessions, also funded by Lumina, have engaged college and Scholars program personnel in examining what is working well at various campuses. Thus, hope persists that Scholars will fare better in college in the future as all involved in the Scholars program become more adept at addressing the needs of these students.

### What is it about the grant aid — or the promise of it — that enables the Twenty-first Century Scholars program to improve access?

The rising cost of higher education is daunting to most. For Scholars and their parents, funding a college education may seem impossible. However, from the Purdue University study we learned that the anxiety of paying for college eased substantially as parents of pre-college-aged

Scholars participating at regional centers learned more about how the Scholars program works. The program makes what seems impossible become possible, giving parents the relief and comfort to begin to actively plan for college with their children. The study by IUPUI underscores this finding: Scholars in college reported that the promise of financial support from the Scholars program was integral to their approach to high school and their commitment to attend college.

However, once in school, Scholars are still confronted by some harsh realities:

- Scholars face difficult financial issues in spite of the Scholars program; these issues, in turn,

often result in conflicting responsibilities with school, work and family.

- Scholars across the study indicated that the lack of financial resources poses major obstacles to their academic success in college. They face persistent dilemmas with the high cost of books, housing and living expenses, and they have difficulty allocating their limited resources, not just among these costs, but those relating to family as well.

Some campuses have attempted to address these financial dilemmas, but opportunities for additional aid above and beyond the last-dollar scholarship provided by the state varied from campus to campus. Many colleges have too few resources to adequately address the needs of all students. A few campuses were able

to provide money toward books and/or room and board, and some tied extra awards to incentives, such as high school GPA or attending summer bridge programs.

Regardless of whether colleges offered additional financial support, administrators described their efforts to identify on-campus work opportunities for Scholars as one important method to ease financial concerns.

In essence, the Scholars program eases fears and gives promise to many who might otherwise never consider college a possibility. At the same time, college enrollment creates extra burdens for many Scholars as they try to make ends meet while covering costs other than tuition. In short, though it is clear that the Scholars program and the money it offers help more low-income students make it to college, many find that the aid they receive is simply not enough.

THOUGH IT IS CLEAR THAT THE SCHOLARS PROGRAM AND THE MONEY IT OFFERS HELP MORE LOW-INCOME STUDENTS MAKE IT TO COLLEGE, MANY FIND THAT THE AID THEY RECEIVE IS SIMPLY NOT ENOUGH.

This raises an important set of questions for further study: What is the impact of financial strain on school performance and persistence in college? What types of services are needed to reduce this strain? Indiana colleges and universities, and the General Assembly itself, could all benefit from a deeper understanding of Scholars' most pressing financial and support needs. It would also be helpful to better understand how failure to address those needs might affect degree attainment. Investigating such questions could provide direction for more colleges and universities as they work to develop additional aid packages and support services for Scholars and other low-income students. At the same time, such a study would undoubtedly have policy implications for the use of Scholar dollars.

**What elements of the Twenty-first Century Scholars program's pre-collegiate programming are particularly effective, and where is there opportunity for improvement?**

The three studies in this inquiry shed significant light on what is working well for Scholars and where improvements are still needed. Collectively, these findings have implications for practices worthy of further refinement and testing.

First, the regional sites are important to those Scholars and parents or guardians who take advantage of what is offered. The University of Michigan researchers' look at student accomplishments in relationship to the use of the service centers or specific services revealed the following:

- Affiliation with regional centers slightly improved Scholars' chances of earning honors diplomas and significantly increased their odds of applying for financial aid and enrolling in college.
- Student engagement in counseling services — including career and academic advising, personal counseling and other counseling services — also improved their odds of enrollment and of enrolling in four-year rather than two-year public institutions.
- "No regional affiliation" was associated with the lowest rates of college application and enrollment.

Further, involvement of the Scholars' parents or guardians in the activities offered at the regional sites is an important key to the Scholars' persistence in and enthusiasm about the program. The University of Michigan findings suggest that parental involvement in events and site visits increased the odds of applying for financial aid. Parent involvement in career-planning and college-preparation workshops was positively associated with completing a Core 40 diploma. Parent participation in events and visits, including college

visits, also improved the Scholars' odds of enrollment.

From Purdue University's studies we learned that changes occur in the lives of those parents, guardians and pre-collegiate

AFFILIATION WITH REGIONAL CENTERS SLIGHTLY IMPROVED SCHOLARS' CHANCES OF EARNING HONORS DIPLOMAS AND SIGNIFICANTLY INCREASED THEIR ODDS OF APPLYING FOR FINANCIAL AID AND ENROLLING IN COLLEGE.

Scholars who actively engage in the various college-preparatory activities sponsored by regional sites. The sites impart critical information effectively and help foster close relationships that influence Scholars' behaviors and aspirations. The more participants learn

about the Scholars program, the better able they are to embrace college as a tenable goal. Further, taking the pledge reinforces their commitment to their future, while actively participating in the program gives them the tools and relationships to make college a reality. The information and skills learned by the parents throughout the program help them feel like better parents in general. Specifically, parents noted that they were better equipped to guide their children through high school and through the college-enrollment experience. These are indeed important benefits of the program.

With a body of findings such as these, it is important to underscore the continued need to adequately fund pre-college support services. In recent years, funding for the regional sites has been reduced. A key message of this report is that continued funding for these offices is crucial.

Yet we must legitimately ask the question: Why are more parents not involved in site activities, especially given how they and their Scholars stand to benefit? What can be done to engage more? The University of Michigan's study of the 2004 cohort and their involvement in services found that disappointingly few parents were engaged in activities that focus group participants reported as highly beneficial. Looking more carefully at the quality of services at the various regional sites might well yield new insights.

IUPUI's study offered insight from college-enrolled Scholars about areas for improvement in pre-college programming. Focus groups with these Scholars suggested that pre-college communication (primarily letters to home or school) — during middle school, high school and throughout the admissions process — was generally more than adequate when it occurred. However, an equal number of students reported receiving no contact at all. Further, communication related to procedural issues on admissions and financial aid appeared to be less than satisfactory, causing frustration and sometimes

exasperation on the part of Scholar applicants.

This set of findings raises crucial questions: "Who gets access to information and services, who does not, and why?" These findings also suggest the need for better interconnections between the Scholars program's central office and the various colleges involved in the program.

### **How and to what extent are Indiana campuses attending to Scholars' special needs? What else could they do to help Scholars overcome the particularly daunting barriers to college success associated with economic disadvantage?**

Overall, colleges and universities in the study made a balanced set of university-wide academic, social and organizational student support services available to Scholars (including orientation, tutoring and learning community programs); however, the availability of these services varied substantially from campus to campus. Most of these services were front-loaded to have the biggest effect on students in transition from high school to college.

While there were many commonalities across the campuses with respect to university-wide supports, some colleges identified no support programs designed just for Scholars, while a few others combined specific financial and programmatic opportunities to engage Scholars academically and socially. Campuses without specific programs for Scholars did have a staff member identified as the contact person for the Scholars program. Most of the community college campuses, which tend to have a high percentage of low-income students with a variety of needs, lacked specific Scholar supports but reported instead that Scholars participated in a variety of programs open to all students on campus. Several other colleges or universities were in this same situation.

Schools that received funding from Lumina Foundation through a competitive grants process, on the other hand, appeared to have more Scholar-specific services. Arguably, these campuses applied for grants because they already had a heightened awareness of Scholar needs. There are notable exceptions: IUPUI did not receive a grant but has in place a robust set of programs for Scholars. Nonetheless, it stands to reason that the institutions that received the grants had the interest (and compelling stories) to get them. This suggests that it is not necessarily a matter of Lumina doing more, but rather, a matter of other campuses (with a few exceptions) developing comparable interest.

SCHOLARS TYPICALLY FELT THAT HAVING A MENTOR HELPED THEM TO BE SUCCESSFUL DURING THEIR FIRST YEAR.

The most commonly noted Scholar support service was a mentoring program. Most campuses in the study sponsored or had previously sponsored a mentoring program. The mentors were generally upper-level Scholars, and they were trained and paid to work individually or with small teams of Scholars. Scholars typically felt that having a mentor helped them to be successful during their first year.

Few campuses reported successful, broad-scope strategies for assessment of Scholars' successes and failures. Basically, across the state and within most colleges and universities, no systemic data-collection process exists for Scholars in college as a whole. Advisers, program service providers, student mentors and administrators all said that, to better understand

Scholars' needs, they should have deeper, more multifaceted conversations with Scholars. These conversations need to go beyond the technical and logistical aspects of the Scholars program to include discussions about the sometimes overwhelming transition to college life and its effects on these students.

Identifying Scholars was a pervasive problem for most campuses. Typically, administrators reported some difficulty in receiving sufficient identifying information from the central office or from their own schools. Identifying Scholars

was an even bigger problem on campuses with large numbers of low-income students. Even if Scholars were identified, administrators often lacked an effective communication strategy to reach them.

These findings indicate that many campuses are indeed taking a greater interest in Scholars and their needs. Still, much work remains to gain a better understanding of how colleges and universities can assist Scholars in a manner that helps to ensure their success in college. A critical first step is to address communication issues that impede the identification of Scholars on campuses. A second important step is to find effective ways to communicate with Scholars once identified. Finally, Scholar needs assessments and responsive programming are critical to helping Scholars break down barriers to college success.

# RECOMMENDATIONS

The growing body of scholarship associated with college access and success — both success during and after college — consistently shows that obtaining a college degree is associated with greater earnings, healthier lives and better economic and social conditions.<sup>28</sup> All of these outcomes are vital to our communities and to the nation as a whole.

With this in mind, any state effort that demonstrates potential for improving rates of college attendance and completion — particularly among groups with little history of pursuing postsecondary education — is worthy of attention. Such efforts can improve the overall quality of life, boost a state's ability to remain competitive in the global economy, and, ultimately, contribute to the overall health of our nation.

That is what gives this report its agency. This summary of recent research on the Twenty-first Century Scholars

program describes promising practices and effects that are too important to ignore. It also highlights challenges too significant to sweep under the rug. In short, this report can and should influence the development of future policy and practice — here in Indiana and beyond.

The three research studies summarized in this report shed new light on the successes and the continuing challenges associated with preparing Twenty-first Century Scholars for college and supporting them once they enroll. Considered collectively, these studies support the following key assertions.

ANY STATE EFFORT THAT DEMONSTRATES POTENTIAL FOR IMPROVING RATES OF COLLEGE ATTENDANCE AND COMPLETION ... IS WORTHY OF ATTENTION.

- The Scholars program promotes enrollment and success in academically challenging high school coursework among low-income and first-generation students — students who are least likely to pursue this kind of academic rigor.
- The Scholars program allows participating students and families to see college as a real possibility. As a result of the program, college is no longer thought to be economically out of reach or viewed as something “for other people.”
- Students, families and site staff report that the relationships forged through the program yield important personal and academic

benefits beyond college enrollment. However, relationship building is labor intensive, and recent funding cutbacks have hampered site staff's ability to serve

students and families with the “personal touch” that proves most beneficial.

- A growing number of Indiana colleges and universities provide targeted support services for Twenty-first Century Scholars who enroll on their respective campuses. However, too few institutions have developed Scholar-specific programs that ease transition into and bolster success in college, and the availability of student and Scholar support services varies significantly from campus to campus.

<sup>28</sup> Sandy Baum and Jennifer Ma, *Education Pays 2000*, (Washington D.C.: The College Board, 2007).

- One of the major challenges in serving Scholars — a challenge faced both by the support sites that serve the sixth- to 12th-grade students and by the colleges in which the Scholars ultimately enroll — is the dearth of up-to-date identification and tracking data. Simply stated: Sites, schools and postsecondary institutions must know who the Scholars are and where they are enrolled if they hope to serve them properly.

- Despite the program's limitations, it is clear that its components — pre-college service and preparation, financial aid, and targeted academic and social supports during college — make a real difference in improving the success rates of low-income and first-generation students. However, all of these components must be more intentionally linked if we hope to enhance the already-promising outcomes associated with the Twenty-first Century Scholars program in Indiana. In fact, creating this linkage is critical if we hope to move beyond enrollment and on to persistence and graduation as the program's primary outcomes.

TIME SPENT WITH SCHOLARS, THEIR FAMILIES AND ON WORTHWHILE ACTIVITIES IS WHAT PROVIDES THE FOUNDATION FOR SUCCESS.

Scholars while the students are still in elementary school. This would allow site staff to start to build relationships with parents and families at an earlier stage in students' academic careers. Such awareness could be fostered via more purposeful connections with other community- and campus-based agencies and initiatives designed to serve the populations that the Scholars program targets.

- Use high-tech electronic and social marketing tools to form communities and enhance relationships among the students, their families, site staff and volunteers. These tools would enable site staff to connect simultaneously with many counties and schools and would also allow students and their families to pose questions around the clock.

- Provide more funds to the sites for relationship-building activities. Currently, the program is focused on program enrollment, not on relationship building. Yet this report shows that the relationships are *key* to realizing the promise of the program. The amount of money needed to fund additional county parent leaders may not be high, and the return on investment could be substantial. However, it's important to note that, although additional funds are necessary, simply increasing the budget is not sufficient for relationship-building activities. Time spent with Scholars, their families and on worthwhile activities is what provides the foundation for success.

With the above findings in mind, we offer the following recommendations for improving practice and policies associated with the success of Indiana's Twenty-first Century Scholars program:

### Serving Scholars before they enroll in college

- Build awareness of the program with parents and families of potential Twenty-first Century

- Continue the campus visits and informational seminars. These services were touted as the most beneficial by the families, students and staff interviewed for this study. Expanding the number and type of institutions visited and the breadth of topics offered during seminars may engage more Scholars and their families in the program and also may help more of them see college as a real possibility.
- Recruit older Scholars to speak as advocates/ambassadors for younger Scholars. This can be done as a work-study assignment and in conjunction with mentoring programs that exist at colleges where many of the sites are housed. This would enable college-level Scholars to serve both college- and pre-college-level students.
- Develop and implement programs specifically targeted at enhancing the constructs of "hardiness" (i.e., challenge, commitment and control). This can be done through involvement in academic honors degree programs in high school and programs associated with college planning and preparation sponsored by the American College Testing (ACT) program or the College Board. By helping Scholars and their families enhance their personal hardiness, the program will ensure that students learn to self-advocate and persevere when they face the inevitable challenges of college life. This type of "hardiness training" might include lessons in negotiating systems, dealing with racism, advocating effectively for themselves, etc.

## Improving the college transition and success of Scholars

- Each postsecondary institution that enrolls students who use the Twenty-first Century Scholars funding should identify staff whose primary responsibility is to coordinate the Scholars program on that campus. The National Academic Advising Association (NACADA) student-to-counselor ratio findings could be used as a guide for the allocation of manpower necessary for this kind of support.<sup>29</sup> In accordance with the NACADA findings, an institution enrolling 150-280 Twenty-first Century Scholars should strive to have one full-time staff member to focus on connecting these students to the institution's array of support programs and/or coordinating efforts specific to enhancing the success of the Scholars at that institution.
- Appoint a statewide task force with participation from the Indiana Commission on Higher Education (ICHE), the State Student Assistance Commission of Indiana (SSACI), Indiana middle and high schools, Scholars' support sites and postsecondary institutions across Indiana. This task force's charge would be to develop and implement a system that helps identify new and continuing Scholars and communicate with them regularly and effectively.
- Use text messaging, instant messaging and social networks such as MySpace and Facebook to improve communication with Scholars in college.

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<sup>29</sup> Wesley R. Habley, *The Status of Academic Advising: Findings from the ACT Sixth National Survey*, (Manhattan, KS: National Academic Advising Association, 2004); and Wesley R. Habley, "Advisor Load," NACADA Clearinghouse of Academic Advising Resources ([www.nacada.ksu.edu/Clearinghouse/AdvisingIssues/advisorload.htm](http://www.nacada.ksu.edu/Clearinghouse/AdvisingIssues/advisorload.htm)).

- Staff working with Scholars on their respective campuses should improve their methods of enrolling Scholars in existing first- and second-year support programs. Alternately, they should create new initiatives to meet the needs of Twenty-first Century Scholars and maximize their success in the first two college years. Success in these first two years is directly correlated with degree completion.<sup>30</sup>
- Following the recommendations of the National Survey of Student Engagement (NSSE, 2006), expand participation of Twenty-first Century Scholars in “enriching educational experiences” (e.g., research, internships/practicum and/or study abroad).<sup>31</sup>
- Offer intensive mentoring programs specifically for Twenty-first Century Scholars that involve both upper-level Scholars and college faculty/staff.
- Create a statewide research project that explores the best methods (in an institutional context) to enhance the benefits of work-study and other forms of on-campus employment for Twenty-first Century Scholars. The lessons from this research, once applied, should help reduce the negative effects of excessive off-campus work.
- Provide additional financial support specifically for Twenty-first Century Scholars — aid that covers full need and helps pay for books, room and board, or other college-related costs not covered by the Scholars grant. For example, expand opportunities for Scholars’ on-campus employment (particularly work related to their majors). Also, consider coupling this provision of additional support with programming on financial literacy for the Scholars.

### Evaluation recommendations

- Form a statewide assessment and evaluation council that examines the impact of college support on Twenty-first Century Scholars. This council should include representatives from the Indiana Association of Institutional Research (INAIR), SSACI, ICHE and the staff working with Scholars at the sites and at the colleges and universities. As a part of this effort, each campus should create an assessment and evaluation plan that examines the use and impact of support services for Twenty-first Century Scholars in its own institutional context. Reports detailing the outcomes of these assessment plans could be shared at annual meetings of the Indiana College Access and Success Network.

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<sup>30</sup> Laurie A. Schreiner, and Jerry Pattengale, *Visible Solutions for Invisible Students: Helping Sophomores Succeed*, Monograph 31, (Columbia, S.C.: National Resource Center for the First-Year Experience and Students in Transition, 2000); Barbara F. Tobolowsky and Bradley E. Cox, *Shedding Light on Sophomores: An Exploration of the Second College Year*, Monograph 47, (Columbia, S.C.: National Resource Center for the First-Year Experience and Students in Transition, 2007); M. Lee Upcraft, John N. Gardner and Betsy O. Barefoot, *Challenging and Supporting the First-Year Student: A Handbook for Improving the First Year of College*, (San Francisco: Jossey-Bass, 2005); Andrew K. Koch, Stephanie M. Foote, Sara E. Hinkle, Jennifer R. Keup and Matthew D. Pistilli, *The First-Year Experience in American Higher Education: An Annotated Bibliography*, 4th Edition, Monograph 3, (Columbia, S.C.: National Resource Center for the First-Year Experience and Students in Transition, 2008); Victor M.H. Borden and Scott E. Evenbeck, S.E., “Changing the Minds of New College Students,” *Tertiary Education and Management* 13 (2007), 153–167.

<sup>31</sup> George D. Kuh, Jillian Kinzie, John H. Schuh and Elizabeth J. Whitt, *Student Success in College: Creating Conditions that Matter*, (San Francisco: Jossey-Bass Inc., 2005).

- Conduct further evaluation of the 2005-06 and/or 2006-07 cohorts' data sets that would incorporate an online survey examining participation in campus services during the Scholars' first and second years of college.
- Conduct research on Twenty-first Century Scholars who graduate from college to assess their employment (or graduate school enrollment) status after college. This would help verify any post-college effects of the educational improvement process in Indiana.
- Continue to research the effects of the Scholars program. In addition to the recommendations above, addressing the following would be particularly fruitful at this time:
  - High school graduation rates of Scholars compared to other comparable groups and high school students in general.
  - Continued studies of the effects of participation in services offered at the regional sites. This could lead to a better understanding of what types of services work best for Scholars.
  - Case studies of Scholars who do not use regional sites for services. Such studies would help determine why they don't participate and help identify what might encourage them to do so.
  - Case studies of income-eligible students who do not participate in the program. This would help us better understand how these students might be engaged.
  - Standardized Scholar assessments from a cross-section of colleges and universities. These assessments would help us better understand the most pressing needs of Scholars who are in college and how best to respond to these needs.
- Studies of a random sample of non-persisters, again leading to a better understanding of what types of services could have prevented them from leaving college before getting a degree.
- Continued research on Scholars' success in college, especially Scholars from colleges taking differing approaches to Scholar services.
- Further study is required to examine the issue of those Scholars who are not ready for a traditional four-year college experience, but who might be better suited to another type of higher education experience. Assessing students' needs more specifically and tailoring interventions to their individual needs may be one important means of helping to assure Scholars' college success. Also, strengthening the interface between two-year or proprietary schools and four-year institutions is a pressing need that merits further attention.

The voices and perspectives included in this analysis suggest future directions and considerations for the Scholars program. Collected and derived from rigorous quantitative and qualitative research, these voices have yielded information that should be seriously considered as the program continues to develop.

In fact, thoughtful action on these recommendations could positively affect the lives of tens of thousands of students and family members who take part in the Scholars program each year. Ultimately, these changes could improve the quality of life here in Indiana and inform similar positive changes throughout the nation.

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