

# Analyzing Critical Educational Breakpoints

## Third Working Paper on “The Impact of Immigration on Higher Education in Indiana”



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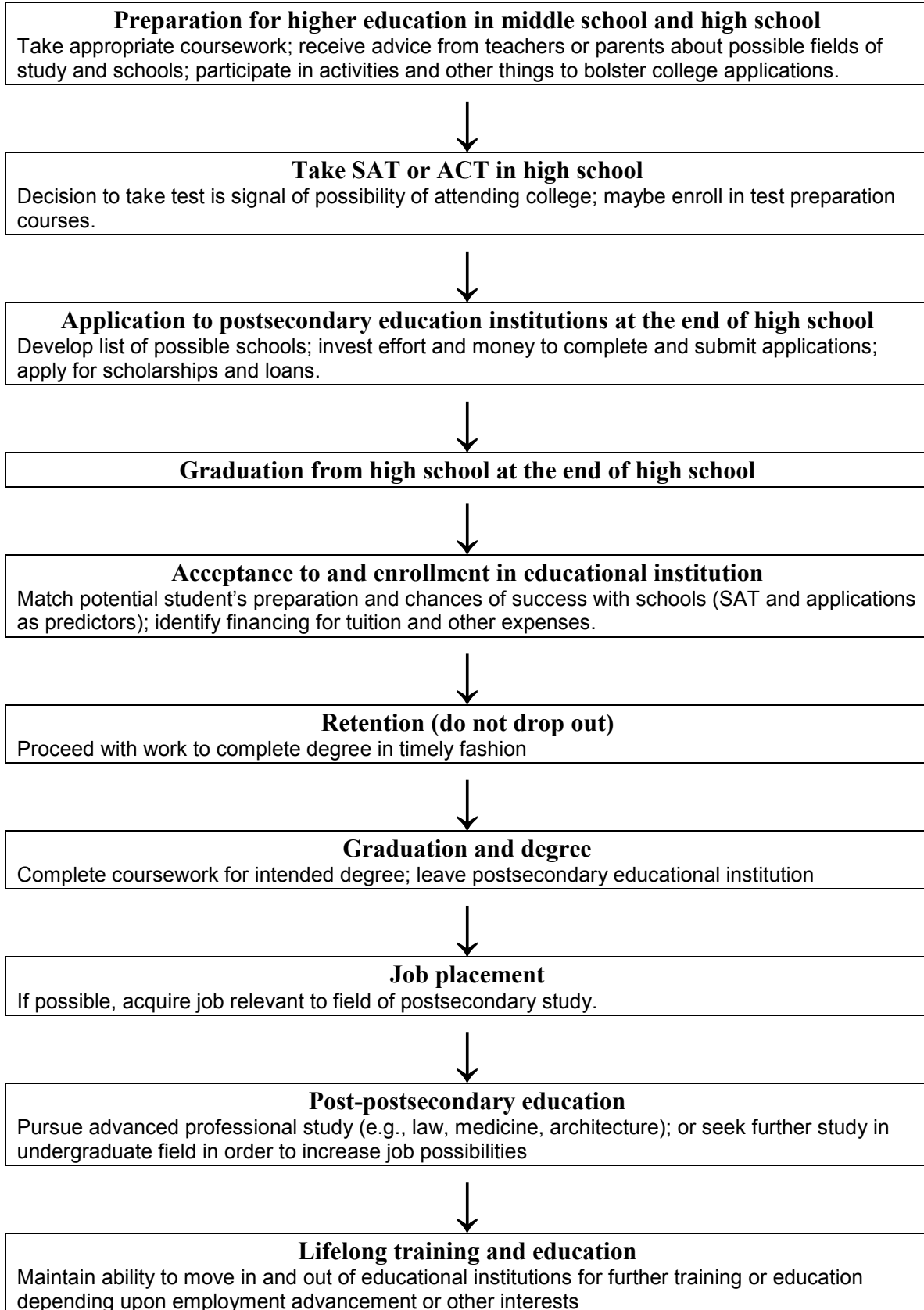
## **I. The Breaks: A Stylized Postsecondary Educational Trajectory**

Imagine a stylized trajectory of a person's path through postsecondary education. The story does not start when she starts unpacking clothes in a dorm room as a freshman. Years of preparation went into this moment. Choosing the right courses in high school. Performing in the classes at the level her teachers say will be necessary to "get into a good school." Consulting with counselors about appropriate possibilities for colleges, and perhaps making a road trip or two with the parents to check out those colleges. Cramming for the SAT. Signing up for plenty of extracurricular clubs and teams to demonstrate a well-rounded set of interests.

Nor is graduation with a bachelor's degree necessarily the end of the higher education trajectory for every student. Some go straight to graduate school. Others will return to educational institutions of various sorts over the course of their working lives to update credentials, pursue new professions, or receive training preferred by an employer.

The stages in a stylized postsecondary educational trajectory might look like Graphic 1:

## Graphic 1 Stylized Postsecondary Educational Trajectory



Of course there are many possible diversions from this stylized postsecondary educational trajectory. This study calls these **breakpoints**. Students in middle and high school may feel no particular desire to attend college, so do not take the classes that would help their chances for admission to an institution of higher learning. Or, they may drop out before graduating from high school. Or, if they are accepted by an institution of higher education they realize that the costs are prohibitive and thus decide to work rather than attend college. Or, they might find satisfactory employment that does not require a degree and so they drop out of college before graduating. Or, they may never find a job that relates to what they studied at university.

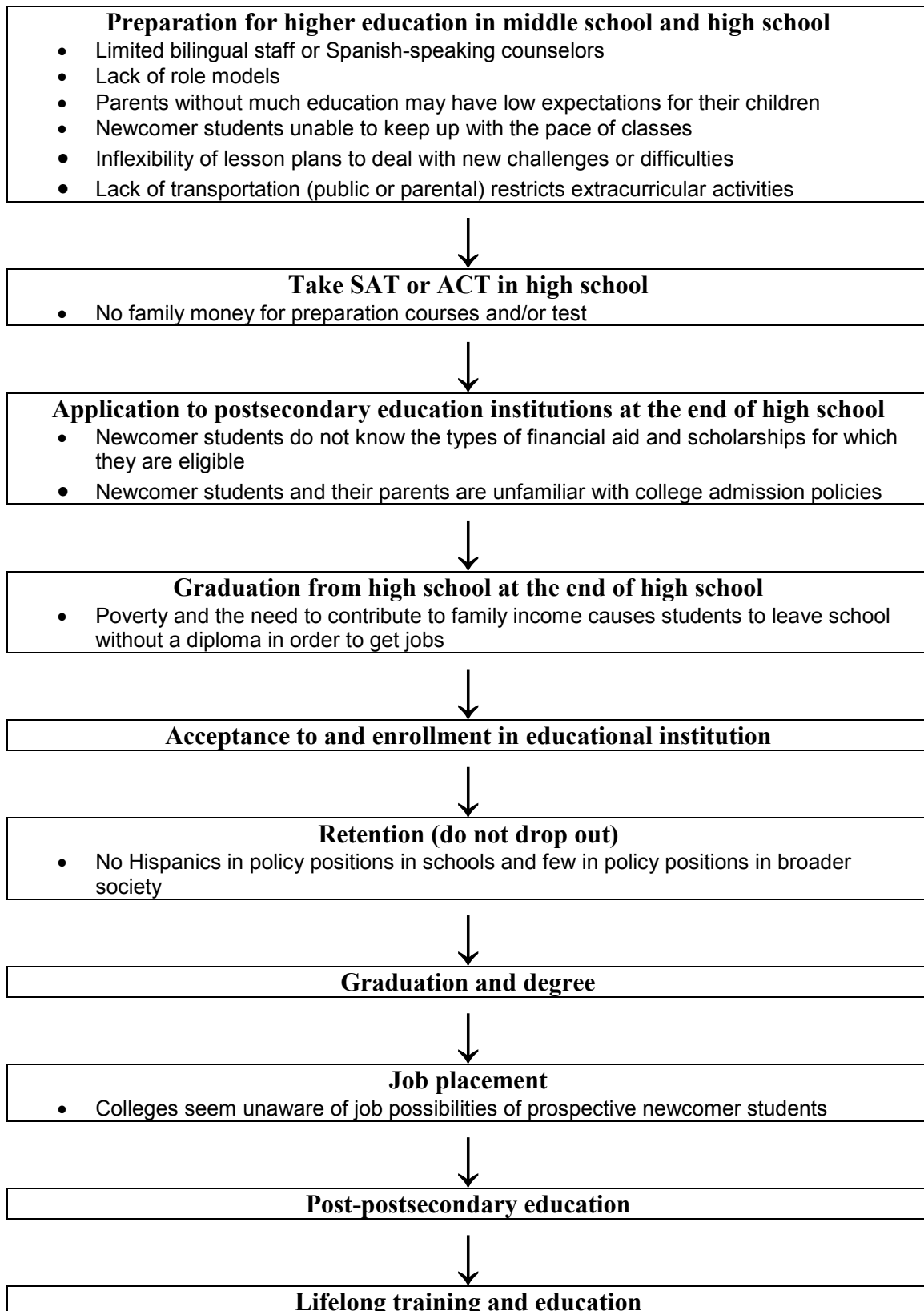
It is important to emphasize that these diversions are not necessarily failures. Each individual's life is shaped by particular circumstances and, as circumstances change, an individual's choices will change as well. We have all met people who have departed from this stylized educational trajectory at various points, and say, "Dropping out was the smartest thing I ever did." But the powerful correlation between education and income (though not necessarily between education and happiness) would lead one to expect that people who chose to hop off the educational trajectory might wish on occasion that they had stuck it out a step or two longer.

It seems likely that most of these diversions represent a frustration of intentions once formed, a failure to achieve a goal that an individual once set for one's self. Furthermore, it is likely that many of those diversions from this trajectory represent a loss to society and some sort of failure of the educational system. Certainly we as a society have decided that about high school graduation: hardly anyone views dropping out from high school as an acceptable life option. Communities, states, and the country as a whole tend to agree that all other things being equal, pushing more individuals farther along this stylized educational trajectory is a good thing for the economy. So diversions are losses not only for individuals, but for society as a whole.

Due to the potential for individual and social loss, many of these possible breakpoints of diversion become matters of public policy. Governmental, education, and other institutions focus interventions and resources on preventing undesired or undesirable choices by students, schools, and others. Some policies are intended to encourage individuals to return to the stylized trajectory after they have been diverted. Thus, reality is not a single trajectory followed by all, but many particular and often idiosyncratic patterns weaving in and out of the educational system, especially after the age of high school graduation.

Sagamore Institute's previous Working Papers on immigration and education have explored some of the points of diversion that seem to be particularly troublesome for immigrants and the children of immigrants. The second Working Paper in particular focused attention on potential barriers to these students being adequately prepared for college or even for graduation from high school. Interviews with teachers and students, administrators and parents repeatedly turned to several challenges, some of which are illustrated in Graphic 2.

**Graphic 2: Examples of challenges that children of immigrants experience maintaining stylized postsecondary educational trajectory**



It is worth looking more carefully at a few of these obstacles. Since Hispanic families' average income is lower than non-Hispanic families — and foreign-born Hispanic families' income is lower on average than domestic-born Hispanics — financial aid is particularly important. Contrary to what many Hispanic students told us, there are many sources of financial aid and other support into which they can tap. For an overview of sources of aid in Indiana, see “Interlude 1: Financial Aid — An All Too Confusing Necessity” (below). But it is likely that few parents who have never attended college can help a child navigate through these complex waters. High school counselors admit to us that they are unfamiliar with the various sources, requirements, and constraints applying to non-citizen students ... and they say they are even less familiar with what applies to unauthorized immigrants.

The confusion of high school counselors, they say, is echoed when they provide job advice to students who they suspect may be undocumented. Many occupations that require licenses also require a Social Security number, meaning that those jobs are closed to unauthorized immigrants. Indiana has more than 200 occupational groups, one of the highest numbers in the U.S.<sup>1</sup> (For an idea of such a diverse set of jobs that may or may not be closed to those without immigrant status, see “Appendix 1: Indiana Professional Occupation Group.”) But, there is no single source of information available, which is open or closed, to unauthorized immigrants. In a series of interviews and requests, no one who works in the Indiana Professional Licensing Agency could find this information short of checking the requirements for each occupation. It would be asking too much for a high school guidance counselor to do the same task. But if an undocumented student thinking about a career realizes that the counselor lacks such vital pieces of information, the student may not see a value to asking for any information at all.

Sagamore's second Working Paper argued that scarce government resources combined with political controversies over immigration to the United States (authorized as well as unauthorized) make it unlikely that large amounts of government spending will be shifted to address all of the challenges our interviewees identified. Instead, the most likely solution will be coalitions of public, private, voluntary and civic organizations.

But for public expenditures or creative coalitions to be effective, we need to have a clear view of the pattern of obstacles: which are most urgent, and which might not require public intervention at all. This Working Paper, the third in a series, explores the implications of these breakpoints for particular groups of immigrants and children of immigrants.

### **Interlude 1: Financial Aid – An All Too Confusing Necessity**

The financing of college education is one the biggest barriers to a student enrolling in a postsecondary education program. The presumed enormity of the cost of attending college deters many students from applying. The average annual tuition (2007) for a four-year public university in Indiana is \$6,056. This does not include an additional \$6,000 for room and board; \$1,000-2,000 for books and supplies; \$1,000 for personal expenses; and an undetermined amount for mandatory and optional fees. The typical Indiana student is, therefore, looking at spending more than \$14,056.00. In contrast, an independent institution's annual tuition averages \$19,369, which does not include room and board, fees, books, and personal expenses. Thus, financial aid is a necessity for any of the institutions in consideration.

Many of those interviewed for this report stated that there is a lack of information sharing by colleges and high school counselors regarding the financing of postsecondary education. "When a student is the first in his/her family to attend college, there is often little knowledge about how to pursue this goal," stated Hannah Sullivan and Jessica McNeil, the former coordinators of the Mother-Daughter/*Mujeres* of La Plaza. "Students often have difficulties breaking down the concrete steps to get to college. Moreover, undocumented students' college options often are not addressed," they concluded. In addition, many Hispanic families are challenged to provide the necessary family finance information to the government when one applies for public financial aid/need-based aid, thus adding to the fear of being discovered as undocumented persons. (La Plaza's Mother Daughter Project (MDP) empowers Hispanic female students to continue their education through high school and beyond by helping them to develop their self-esteem, foster supportive relationships, explore future dreams and goals, and value the importance of education in their lives. At the same time, the MDP works with the students' mothers to support and empower them, both in their own lives and in the lives of their daughters.)

The reduction of Affirmative Action in U.S. colleges and universities has been detrimental for the educational opportunities available for African American and Hispanic students. However, many postsecondary institutions in Indiana are implementing recruiting strategies to increase enrollment of African American and Hispanic students who are underrepresented in those schools. Many are offering scholarships and aid packages designated specifically for minority students.

Indiana University implemented a recruitment strategy that aims to double minority enrollment by 2013-2014. This minority recruitment strategy includes the Presidential Incentive Initiative, IU Pell Promise, 21<sup>st</sup> Century Scholars Covenant, and "Million Dollar Initiative," which provide scholarships and academic/social support for minorities and/or low-income students. Moreover, Indiana University offers specific scholarships for minorities through the Hudson and Holland Scholarship Program, Latino Alumni Association's Undergraduate Scholarship program, Minority Achievers Program, Mathematics and Science Scholarship Program, along with several others.

Goshen College, through its new Center for Intercultural Teaching and Learning, provides a leadership program each year for 20 Hispanic students. The program assists the students with developing intercultural skills that will help create effective and peaceful relationships with community members. The program provides each participant with faculty mentor, peer mentor, and bilingual enrollment counselor liaison to assist with the transition to college. In addition, the participants will have access to educational enrichment programs, service learning activities, leadership opportunities, and scholarship funds.

Most universities and colleges offer minority and/or Hispanic specific scholarships. One can find these scholarships simply by reviewing the schools' financial aid websites. Moreover, many university Hispanic organizations offer scholarships and other support programs for students.



The State of Indiana offers several financial aid options for low- to middle-income students. They include the 21<sup>st</sup> Century Scholars Program, the Frank O'Bannon Grant Program, and Summer State Work Study Program, but only one program specified a minority scholarship -- the Minority Teacher/Special Education Services Scholarship.

One can also find information on scholarships available for Hispanics through community Hispanic Action Agencies, such as La Plaza, HOLA, United Hispanic Americans, and others. There are programs such as the National Society of Hispanic MBAs, which has a chapter in Indianapolis and provides scholarships for graduate students pursuing an MBA. The chapter also sponsors Project Stepping Stone, a program that assists Hispanic high school students to explore their college options and prepare them for the transition from high school to college.

Almost all of the before mentioned financial aid options require a student to be a legal citizen or permanent resident of the U.S. This prevents an unspecified number of students from receiving the necessary funding to obtain a postsecondary education. However, if one is diligent, one can find several scholarships that do not require one to be a U.S. citizen or permanent resident. A list of such scholarships is available through the Mexican American Legal Defense and Educational Fund. While the scholarships listed might not require a Social Security number, several of the career areas that the funds target, such as teaching, accounting, and architecture, do require such documentation.

One choice for undocumented students hoping to achieve a postsecondary education is to apply as an international student or out-of-state-resident. The drawback to this is the higher tuition fees. However, some schools may provide undocumented students with scholarships and financial aid if they apply as a non-resident.

In an effort to provide access to postsecondary education at the rate of in-state tuition for undocumented students, one Congressional bill, "Development, Relief, and Education for Alien Minors Act," was proposed to allow undocumented students to achieve permanent resident status in 2007; similar bills began appearing in 2001. The DREAM Act would permit those undocumented students who meet the following criteria to have access to college and/or military service: (1) Student arrived in the U.S. before his sixteenth birthday; (2) Student must possess proof that he/she resided in the U.S. for five consecutive years since his/her arrival; (3) Student must be between the ages of 12 and 30 when Congress enacts the bill; (4) Student must possess an American high school diploma or GED; (5) Student must not have a criminal record and must comply with Selective Service laws. If the student meets all of these requirements, then he/she can qualify for a six-year conditional resident status. Once he/she obtains this status, he/she must complete either two-years of a four-year university program, graduate from a two-year community college, or complete two years of military service in order to receive legal permanent status, and be on their way to achieving citizenship.

A major drawback to this bill is that during the conditional six years, the student would not be eligible for federal higher education grants. Federal financial aid comprises a major portion of a student's financial aid package; without this assistance an undocumented student is still highly likely to be financially barred from attending college.

The options for legal Hispanic citizens for financing their postsecondary education are many. Like most students, a prospective Hispanic student will have to be diligent about his/her search for the most affordable school and best financial aid packages. Much of the process is confusing and offers little instruction, but there are many organizations and state government departments that offer assistance in finding and applying for financial aid and scholarships. The key is to utilize their services, most of which are free.



For undocumented Hispanics, the barriers to postsecondary education are large and numerous. Without the DREAM Act passing Congress, undocumented students have little opportunity to access higher education. However, there are some financing and scholarship options available. Undocumented students need to explore those options; but it understandable that many have not and will not do so out of fear of being discovered as being in the U.S. illegally.

## II. High School Performance of Immigrants and Others: An Overview

The first critical breakpoint of educational separation within the larger population is between those who have a high school diploma and those who do not. Let us examine the widespread differences among high school graduation rates of various racial and ethnic sub-groups.

**Table 1 Indiana public high school graduation rates by race/ethnicity, 2005-06, with share of total graduation cohort**

	Share of graduation cohort (%)	Graduation rate (%)
<b>White</b>	<b>79.6</b>	<b>81.7</b>
<b>Black</b>	<b>11.4</b>	<b>58.5</b>
<b>Asian</b>	<b>1.2</b>	<b>84.1</b>
<b>Multi-racial</b>	<b>1.4</b>	<b>72.5</b>
<b>Native American</b>	<b>0.3</b>	<b>67.3</b>
<b>Hispanic</b>	<b>4.0</b>	<b>63.5</b>

While this paper focuses primarily on the educational experiences of immigrants, the differences in Table 1 point toward an exploration of the issues of race/ethnicity in addition to immigration status and, by extension, cultural identity as a complicating factor added to immigration status. This leads us to consider whether the educational experience of immigrants in the state's primary and secondary system is mainly a function of economic factors rather than the immigrant background.

Perhaps the most commonly held assumption about the relation between immigration status and education is that Hispanic immigrants struggle while Asian immigrants perform well. But Table 1 shows more than just differences between foreign-born Hispanics and foreign-born Asians. It shows that regardless of immigration status, Asians graduate from high school at a much higher rate than Hispanics. The difference between the two rates is not primarily due to the large influence of immigrants from Latin America and from Asia: The foreign-born make up a large but hardly dominant share of Indiana's Hispanic population, while the foreign-born share of Indiana's Asians is relatively small.<sup>ii</sup>

Moreover, the high graduation rates of Asians compared to Hispanics mirrors family income patterns between the two groups. Given the widely documented role of family education in educational performance, we must ask whether the data in Table 1 simply reconfirm the role of family income in driving educational outcomes regardless of national origin.

Unfortunately, K-12 schools and government organizations are constrained in how much information they can collect about students' and their families' immigration status.<sup>iii</sup> Nevertheless, the Census Bureau's Public Use Micro Sample provides some suggestive hints and indications.<sup>iv</sup>

The population described in this section is a representative sample of Indiana's 16-, 17-, and 18-year-olds in the Year 2006. Note that this is in no way the graduation cohort whose outcomes created the data in Table 1. Due to the simple fact that an 18-year-old

has more time to drop out from high school, data will consistently be reported in separate fashion for each age group.

**Table 2 Profile of Indiana’s 16-19 year-old population by race and ethnicity.**

	<b>16 years-old</b>	<b>17 years-old</b>	<b>18 years-old</b>	<b>19 years-old</b>
<b>White</b>	<b>83.0</b>	<b>81.1</b>	<b>80.3</b>	<b>83.2</b>
<b>Black</b>	<b>10.5</b>	<b>11.4</b>	<b>11.7</b>	<b>7.1</b>
<b>Asian</b>	<b>1.1</b>	<b>0.9</b>	<b>1.4</b>	<b>2.3</b>
<b>Multi-racial</b>	<b>1.2</b>	<b>1.3</b>	<b>1.0</b>	<b>1.5</b>
<b>Native American</b>	<b>0.4</b>	<b>0.1</b>	<b>0.0</b>	<b>0.3</b>
<b>Other race</b>	<b>0.2</b>	<b>0.1</b>	<b>0.2</b>	<b>0.0</b>
<b>Hispanic</b>	<b>3.8</b>	<b>5.1</b>	<b>5.5</b>	<b>5.5</b>

The demographic profile displayed by Table 2 closely matches the graduation cohort of Table 1. Roughly four of every five Hoosiers in their middle-to-late teens are white. Roughly one in ten are black, and roughly one in twenty is Hispanic.

Table 3 shows a rough correspondence between the graduation rate patterns of Table 1 and the outcomes described by Census data: Black and Hispanic achievement lags behind non-Hispanics and other races.

**Table 3 Percent of 16-19 year-olds who are still in school or have graduated high school, by race and ethnicity**

	<b>16 years-old</b>	<b>17 years-old</b>	<b>18 years-old</b>	<b>19 years-old</b>
<b>White</b>	<b>96.0</b>	<b>94.0</b>	<b>93.0</b>	<b>92.0</b>
<b>Black</b>	<b>91.2</b>	<b>92.5</b>	<b>81.5</b>	<b>85.6</b>
<b>Asian</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>98.5</b>
<b>Multi-racial</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>91.6</b>
<b>Native American</b>	<b>100.0</b>	<b>100.0</b>	<b>n/a</b>	<b>53.3</b>
<b>Other race</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>n/a</b>
<b>Hispanic</b>	<b>94.4</b>	<b>88.3</b>	<b>58.4</b>	<b>76.2</b>

While Table 3 shows a similarity between official graduation rates and the census data with respect to relative achievement among racial/ethnic cohorts, there is much less similarity between the official graduation rates of Table 1 and the actual percentages of those still in school or graduated in Table 3 for each cohort. For example, the percentage of Asian 18-year-olds who are still in school or already graduated is higher than the percentage of similar white 18-year-olds, just as in Table 1. But the census data shows 100 percent of Asian 18-year-olds as either still in high school or as having already earned their diplomas. The official graduation rate is much lower: 84.1 percent.

This discrepancy could result from several factors. First, Table 3 (as well as other tables drawn from the Census Bureau’s Public Use Micro Sample) draws from an estimate of Indiana’s population, and is in no way the same as the graduation cohort described by Table 1. Second, as with any estimates based on sampling, the Census data includes a number of sources of statistical error. Finally, while Indiana has made great improvements to its methodology for calculating graduation rates, these too cannot be perfectly accurate.

With those caveats in mind, the Census dataset does offer important insights into the impact of immigration on educational attainment outcomes. Table 4 separates attainment outcomes between the domestic- and foreign born.

**Table 4 Percent of 16-19 year-olds who are still in school or have graduated high school by domestic or foreign birth origin**

	domestic	foreign
<b>16-year-olds</b>	<b>95.7</b>	<b>90.2</b>
<b>17-year-olds</b>	<b>93.9</b>	<b>87.9</b>
<b>18-year-olds</b>	<b>91.5</b>	<b>61.9</b>
<b>19-year-olds</b>	<b>90.9</b>	<b>86.1</b>

This confirms the hypothesis that immigrants are less likely to graduate from high school than are the domestic-born. The difference is generally not large, aside from the difference for 18-year-olds ... and even that substantial difference comes with a catch. As noted earlier, because of the relatively small size of the populations being analyzed, statistical error plays a critical role in the data in this section. The resulting margins of error diminish our confidence that the differences are in fact “truly” different, that is reflective of differences in the total population of eighteen-year-olds. As a result, while the difference for domestic and foreign born 18-year-olds is apparently large and may be truly different, there is no way to claim that this difference is significant with any reasonable level of statistical confidence.

Still, this leads to what appears a reasonable conclusion: immigrants are less likely to stay in high school or to have graduated from it; simply stated, they are more likely to drop out of school. More detailed data by race and ethnicity, however, suggest that this tendency is not uniform across all immigrant groups. This dynamic is illustrated in Table 5.

**Table 5 Percent of 16-19 year-olds who are still in school or have graduated high school, by race, ethnicity, and domestic or foreign birth origin**

	16 years-old		17 years-old	
	domestic	foreign	domestic	foreign
<b>White</b>	<b>96.0</b>	<b>100.0</b>	<b>94.0</b>	<b>100.0</b>
<b>Black</b>	<b>91.1</b>	<b>100.0</b>	<b>92.4</b>	<b>100.0</b>
<b>Asian</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Multi-racial</b>	<b>100.0</b>	<b>n/a</b>	<b>100.0</b>	<b>n/a</b>
<b>Native American</b>	<b>100.0</b>	<b>n/a</b>	<b>100.0</b>	<b>n/a</b>
<b>Other race</b>	<b>100.0</b>	<b>n/a</b>	<b>100.0</b>	<b>n/a</b>
<b>Hispanic</b>	<b>100.0</b>	<b>81.6</b>	<b>92.8</b>	<b>77.6</b>
	18 years-old		19 years-old	
	domestic	foreign	domestic	foreign
<b>White</b>	<b>93.3</b>	<b>100.0</b>	<b>91.9</b>	<b>100.0</b>
<b>Black</b>	<b>81.4</b>	<b>100.0</b>	<b>85.6</b>	<b>n/a</b>
<b>Asian</b>	<b>100.0</b>	<b>100.0</b>	<b>88.0</b>	<b>100.0</b>
<b>Multi-racial</b>	<b>100.0</b>	<b>n/a</b>	<b>91.6</b>	<b>n/a</b>
<b>Native American</b>	<b>n/a</b>	<b>n/a</b>	<b>53.3</b>	<b>n/a</b>
<b>Other race</b>	<b>100.0</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
<b>Hispanic</b>	<b>79.4</b>	<b>43.2</b>	<b>82.3</b>	<b>62.8</b>

The pattern across all racial groups directly contradicts the belief that immigrants as a whole are less likely to remain in high school or to earn a diploma. It is true that Hispanics are more likely to drop out if they are foreign born. (Note that Hispanics represent an ethnicity, not a race.) This means the challenges today’s new waves of immigrants pose to Indiana’s education system are actually challenges associated with a sub-set of the immigrant population, not the whole.

The anecdotal experiences reported in the second working paper of this study and Graphic 2 of this Working Paper indicate that many of the problems identified in Table 5 come from Hispanics dropping out of Indiana high schools.<sup>v</sup> However, the data in Table 5 is a total population estimate from the Census Bureau, not an education performance count from the Indiana Department of Education. Table 5 captures high school dropouts who were never a part of Indiana’s educational system. General population data suggests that the new Hispanic immigrants skew young: those who cross the border to find work tend to be at the beginning of their working lives and less encumbered by dependent family. The 18- and 19-year-olds that figure into Tables 2 through 5 may include a number of these immigrants who came here solely to work, who thus do not necessarily signify a failure of Indiana’s education system. Although, if they remain in the Indiana workforce and seek further education or training, or if they choose to raise families in Indiana, they may pose challenges for the state’s education system in the future. Table 6 addresses this issue.

**Table 6 Share of 18 and 19-year-old immigrant high school dropouts who entered the U.S. from 2005 to 2006 (%)**

<b>18 years-old</b>	<b>26.7</b>
<b>19 years-old</b>	<b>10.6</b>

This suggests that those who came to the state just to work constitute a relatively small part of Indiana’s young Hispanic immigrant dropout problem. Only one-quarter of 18-year-old Hispanic immigrant dropouts entered the U.S. between 2005 and 2006; approximately one in ten 19-year-old dropouts entered the U.S. during that period. In other words, a large majority of foreign-born Hispanic dropouts were at some point traditional students in Indiana’s or another state’s secondary education system.

The implications can be somewhat encouraging. Indiana is not threatened by an explosion of its high school dropout population from work-seeking immigrants who are at present outside the reach of its educational system. Those individuals who moved to the state from abroad, who possess limited education from their home countries, and who are in search of work that requires limited skills are unlikely to care about or stress Indiana’s local education system. But it is less encouraging for those who do enter high school: the educational system in Indiana has not developed an adequate response to the dropout tendencies of Hispanic students, and especially those Hispanic students born outside the U.S. Based upon recent immigration trends, this population is all but certain to grow larger every year. For decades Indiana has been slowly making progress toward diminishing the size of its dropout population.<sup>vi</sup> Until a successful set of solutions for the challenges of Hispanic and especially Hispanic immigrant dropouts takes shape, this progress could be reversed.

Let us now consider some possible causes of this relatively low level of educational attainment.<sup>vii</sup> One of the most controversial topics connected to Hispanic immigration over the last couple of decades is language, with particularly intense disagreements over the role and effectiveness of English as Second Language teaching methods. But the relation between English language proficiency and educational success is not controversial at all: a student unable to speak English is unlikely to receive a very good education. The connection between the two is strongly confirmed by the data for Indiana (Table 7).

**Table 7 Percent of 16-19-year-old immigrants who are still in high school or earned their diplomas, by ability to speak English**

	<b>Speaks English “not well” or “not at all”</b>	<b>Speaks English “well” or better</b>
<b>16 years-old</b>	<b>51.4</b>	<b>95.5</b>
<b>17 years-old</b>	<b>18.2</b>	<b>100.0</b>
<b>18 years-old</b>	<b>5.3</b>	<b>92.9</b>
<b>19 years-old</b>	<b>0.0</b>	<b>90.3</b>

The differences in Table 7 are so large that they are statistically significant at both the 90% and 95% levels of confidence for 17-, 18-, and 19-year-olds. One can find passionate constituencies for reforming and for preserving unchanged existing programs designed to address poor proficiency in English. But, the fact is clear that Indiana’s response to increased immigration must emphasize the issue of language. At present, the share of immigrant students who speak English poorly is relatively small. For example, only 12 percent of Indiana’s 16-year-olds and only 15 percent of its 17-year-olds were reported to speak English “not well” or “not at all.”<sup>viii</sup> Without greater systemic success in overcoming the language barrier, a sharp increase in the size of this cohort will be likely, and it will probably be disastrous. Even at the cohort’s present size, the extremely high dropout rate creates a significant drag on overall immigrant graduation rates.

Along with language proficiency, other factors are often associated with educational performance. One of the most common factors cited is typically income, with higher family income correlated with better educational performance among the family’s children.<sup>ix</sup> The next set of tables examines the relation between dropout dynamics and family income.

The following analysis is limited only to 16- and 17-year-olds. Many 18- and 19-year-olds move out into households of their own (or onto college) and thus generate their own household income within the dataset; including them would skew the point of the analysis. For example, many 18-year-old college students report a very low income, despite a “true” or “effective” family income that is high.<sup>x</sup>

For the whole population of 16-year-olds, the percentage still in high school or already graduated was 95.6 percent. For 17-year-olds, the percentage was 93.7 percent. Per capita household income is used to measure income. This measure was generated by calculating the income per household member (e.g., if household income was \$20,000 and there were four household members, income per household member was \$5,000) and then creating

an average for the whole population. The per capita household income for 16-year-olds was \$18,407. For 17-year-olds, the per capita household income was \$18,494.

The following table then treats income as a predictor of the percentage of various cohorts who were in school or who possessed a high school diploma. If a cohort's per capita household income was above that of the entire population, then the prediction would be that the percentage in school or with a diploma would also be above that of the entire population. The analysis is overly simplified: it does not deal with a quantitative prediction such as would be created by regression analysis. But it reveals clear patterns.

**Table 8 Predictive accuracy of the hypothesis that above average per capita income is associated with an above average likelihood of non-dropout status**

		<b>16-year-olds</b>	<b>17-year-olds</b>
<b>White</b>	<b>Domestic born</b>	<b>correct</b>	<b>correct</b>
	<b>Foreign born</b>	<b>correct</b>	<b>correct</b>
<b>Black</b>	<b>Domestic born</b>	<b>correct</b>	<b>correct</b>
	<b>Foreign born</b>	<b>prediction below actual</b>	<b>prediction below actual</b>
<b>Hispanic</b>	<b>Domestic born</b>	<b>prediction below actual</b>	<b>correct</b>
	<b>Foreign born</b>	<b>correct</b>	<b>correct</b>

The simple assumption that higher-than-average income is coupled with higher-than-average high school attainment behavior is for the most part confirmed in Table 8. In all cases white 16- and 17-year-olds have above average per capita household income. The share of the white 16- and 17-year-old population still in school or graduated is also above average. The relationship also holds up, albeit in the opposite direction, for domestic born black students and foreign born Hispanic students; below average income is coupled with below average educational outcomes.

Three exceptional instances stand out: 16- and 17-year-old foreign born blacks and 16-year-old domestic born Hispanics. Several potential sources of error inherent to the dataset caution interpretation of these instances (and for that matter all of Table 8). The estimated population size of, for example, immigrant 16-year-old blacks is exceedingly small. Still, the hypothesized relationship was consistent with the actual relationship between income and dropout propensity in nine of the twelve cases.

When each cohort is examined separately rather than in comparison to the whole 16- or 17-year-old population, that hypothesis is even more consistent with actual results. Table 9 explores the question of whether the per capita household income of dropouts was lower than the per capita household income of non-dropouts in each racial/ethnic/place of birth cohort. Data limitations mean this analysis was not possible for all cohorts, but the results are uniform.

**Table 9 Predictive accuracy of the hypothesis that dropouts had lower per capita household income than non-dropouts in a given cohort**

		<b>16-year-olds</b>	<b>17-year-olds</b>
<b>White</b>	<b>Domestic born</b>	<b>correct</b>	<b>correct</b>
<b>Black</b>	<b>Domestic born</b>	<b>correct</b>	<b>correct</b>
<b>Hispanic</b>	<b>Domestic born</b>	<b>n/a</b>	<b>correct</b>



<b>Hispanic</b>	<b>Foreign born</b>	<b>correct</b>	<b>correct</b>
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These results further support the intuition that income strongly influences the issues surrounding the education of Indiana’s new immigrants, just as for other segments of the population. For example, the per capita household income of 17-year-old Hispanic immigrants who were in high school or had graduated high school was \$15,230. The per capita household income of 17-year-old Hispanic immigrants who had dropped out of high school was \$10,465.

Again, these findings must be viewed in light of the limitations of such a simplistic “predictive” relationship, as well as the other problems resulting from various sources of sampling and non-sampling error. The data in Tables 2 through 9 are clues, not solid proof. Nonetheless, many of these clues are consistent with reasonable assumptions about the factors that should confound any attempt to wholly explain educational outcomes by immigrant status, especially for Hispanics: language and income matter; so does country of birth.

Review again the stylized postsecondary educational trajectory of Graphics 1 and 2 earlier in this paper. Clearly the breakpoint of a high school diploma is essential. When the project’s interviewees, reported in the second Working Paper, identified the challenges facing immigrants’ children in schools, they appeared to assume the important causes at play were language, low income, and the rigidities of educational institutions in coping with a large wave of immigrants. The picture now is a bit clearer. Family income and students’ fluency in English do matter. But the critical factors are Hispanic vs. non-Hispanic, with immigrant status for Hispanics making the gap even bigger. This pattern becomes clearer when we see how these gaps start to disappear.

### III. A Smoothing of Differences: Postsecondary Attainment Patterns

The patterns of educational success described in the previous section change markedly after these groups leave high school. This section analyzes the educational attendance and attainment patterns examined earlier, but in a more aggregated fashion. This analysis suggests to a surprising degree that the differences among demographic groups erode with matriculation into college. In other words, the attainment outcomes of key sub-populations are a function of what happens **before** entering college much more than they are a function of what happens **after**.

To compensate for the sources of error described earlier, aggregated sub-groups were formed to increase the sub-sample size. Race was ignored. Hispanic ethnicity was separated into Hispanic and non-Hispanic. Origin was separated into domestic-born and foreign-born. Age was separated into two groups: 20-24 year-olds and 25-29 year-olds. The performance of these groups follows.

**Table 10 High school diploma attainment by ethnicity, birth origin, and age (%)**

<b>age:</b>	<b>20-24</b>	<b>25-29</b>
<b>Hispanic, domestic-born</b>	<b>80.4</b>	<b>75.7</b>
<b>Hispanic, foreign-born</b>	<b>50.4</b>	<b>43.4</b>
<b>Non-Hispanic, domestic-born</b>	<b>87.7</b>	<b>88.1</b>

<b>Non-Hispanic, foreign-born</b>	<b>97.7</b>	<b>90.2</b>
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Table 10 extends the findings of Tables 1 and 2 to the population in its twenties. For those in their twenties, like those in their late teens, Hispanics in general graduate from high school at a lower rate than non-Hispanics. However, graduation rates are lowest for Hispanic immigrants by a wide margin. It is important to note that the estimates in Table 10 are likely to include a large number of people who did not attend Indiana high schools. This is as true of immigrant non-Hispanics—many of whom will have come to the U.S. to attend Indiana’s colleges and universities—as it is immigrant Hispanics who many have come to the state for work in their late teens or early twenties.

Regardless of the state in which Indiana’s current twenty-something population attended high school, however, the overall findings of the previous section hold true: immigrant non-Hispanics are most likely to have graduated high school, trailed by domestic-born non-Hispanics. Immigrant Hispanics are the least likely to have graduated high school, again by a wide margin. It should not be surprising that this pattern characterizes college attendance behavior. Table 11 illustrates the share of high school graduates who went on to college.

**Table 11 Share of high school graduates who have college experience by ethnicity, birth origin, and age (%)**

<b>Age:</b>	<b>20-24</b>	<b>25-29</b>
<b>Hispanic, domestic-born</b>	<b>61.4</b>	<b>64.0</b>
<b>Hispanic, foreign-born</b>	<b>15.8</b>	<b>29.3</b>
<b>Non-Hispanic, domestic-born</b>	<b>68.7</b>	<b>66.6</b>
<b>Non-Hispanic, foreign-born</b>	<b>91.4</b>	<b>83.1</b>

As was the case in Table 10, the data for immigrant non-Hispanics in Table 11 show less educational success among 25-29 year-olds than among 20-24 year-olds. While a comparison of the different cells in Tables 10 and 11 must keep margins of error in mind, a plausible explanation for the apparent difference between early-twenties and late-twenties immigrant non-Hispanics is easy to imagine. Many such immigrants come to Indiana to attend its colleges and universities. By their late-twenties, many of these immigrants have moved to other states or back to their home nations. (Targeting this population of highly educated immigrants for long-term work in Indiana must be a central focus of any “brain drain” strategy.)

Two other important findings in Table 11 should be highlighted. First, behavioral differences among domestic-born Hispanics and domestic-born non-Hispanics have largely eroded. Table 10 shows that domestic-born Hispanics are much less likely to graduate high school than their domestic-born non-Hispanic peers. However, among those who do graduate high school, both groups are about equally likely to go on to college.

Second, the gap between immigrant Hispanics and other segments of the population is strikingly wide, much wider than it is for high school diploma attainment. There are contextual reasons for this, such as poverty. There are also structural reasons, such as the difficulties that undocumented status can pose for participating in college. Whatever the

causes, this gap stands out as an important challenge posed by increased immigration to Indiana.

While this gap appears to persist in terms of the share of those with college experience who stay in school or earn a degree, it does narrow considerably. This is shown in Table 12.

**Table 12 Share of those with college experiences who are still in school or earned an undergraduate degree by ethnicity, birth origin, and age (%)**

<b>age:</b>	<b>20-24</b>	<b>25-29</b>
<b>Hispanic, domestic-born</b>	<b>75.3</b>	<b>65.3</b>
<b>Hispanic, foreign-born</b>	<b>63.3</b>	<b>44.7</b>
<b>Non-Hispanic, domestic-born</b>	<b>78.5</b>	<b>70.0</b>
<b>Non-Hispanic, foreign-born</b>	<b>85.8</b>	<b>95.2</b>

Table 11 showed a gap of nearly 46 percentage points between the behavior of immigrant and domestic-born Hispanics in their early twenties. When one analyzes the likelihood that a college attendant drops out of college before earning a degree, the difference shrinks to 12 percentage points, as in Table 12. This difference would be well within the margins of error. The fact that the gap is fairly sizeable for 25-29 year-olds, however, suggests that there are indeed real differences between the two groups, not only a statistical artifact.

The question is whether the gap is so large that it should be prioritized over other educational breakpoints as the state begins to address increased Hispanic immigration. Were foreign-born Hispanic outcomes equal to those of domestic-born Hispanics in Table 12, the effect would reduce the number of 20-24 year old dropouts by only 126 people and the number of 25-29 year old dropouts by 581. This despite the large percentage difference in attainment: 75.3 percent versus 63.3 percent for 20-24 year olds and 65.3 percent versus 44.7 percent for 25-29 year olds.

The percentage difference in attainment between domestic-born Hispanics and non-Hispanics was much smaller: 75.3 percent versus 78.5 percent for 20-24 year olds and 65.3 percent versus 70.0 percent for 25-29 year olds. Yet, small as those differences are, if the former performed at the same rate (Table 12) as the latter, it would reduce the number of 20-24 year-old dropouts by 242 people and the number of 25-29 year-old dropouts by 239 people. In other words, even relatively miniscule changes in dropout rates of domestic-born Hispanics reduce the number of dropouts to a far greater degree than even relatively large changes in the dropout rates of foreign-born Hispanics.

To the extent that outcomes for both immigrant and non-immigrant Hispanics lag those of non-Hispanics, addressing the larger issues that affect all Hispanics, regardless of whether they are foreign- or domestic-born, may be the more effective course. Two notes of caution should be associated with such an “immigrant-blind” approach. First, as immigration increases, an immigrant-blind strategy today may cause the state to fall ever farther short of its potential in the years ahead. Second, boosting outcomes among those few Hispanic immigrants who do go to college could have disproportionately large

effects if it would influence more Hispanic immigrants to enter college. There is much evidence that peer leadership can boost educational performance.<sup>xi</sup>

Tables 10 through 12 analyze the behavior of populations at successive breakpoints: the share of the population with a high school diploma, the share of high school graduates who have college experience, and the share of those with college experience who are still in school or earned a degree. Table 13 continues this approach and examines the share of those who are still in school or earned a degree (non-college dropouts) that did, in fact, earn a degree. It explains the percentage of early-twenties non-college dropouts who earn their degree by the age of 24 and the percentage of late-twenties dropouts who earn their degree by the age of 29.

**Table 13 Share of non-college dropouts who earned an undergraduate degree by ethnicity, birth origin, and age (%)**

<b>Age:</b>	<b>20-24</b>	<b>25-29</b>
<b>Hispanic, domestic-born</b>	<b>26.4</b>	<b>70.8</b>
<b>Hispanic, foreign-born</b>	<b>29.0</b>	<b>98.3</b>
<b>Non-Hispanic, domestic-born</b>	<b>33.4</b>	<b>82.7</b>
<b>Non-Hispanic, foreign-born</b>	<b>38.3</b>	<b>88.2</b>

The data indicate by this point in this section’s line of analysis the deficiencies among foreign born Hispanics have all but disappeared. To be sure, Table 13 requires an interpretive nuance. In a sense, it suggests that when Hispanics stay in college, they are relatively more likely to earn a degree. That would seem obvious. But the important lesson concerns time. Among those in their late-twenties, immigrants of either ethnicity are most likely to have earned a degree. This does not negate a continuing gap between Hispanic and non-Hispanic performance. That includes immigrant Hispanics among 20-24 year-olds. Again, however, the gap has narrowed considerably in comparison to earlier tables and is well within margins of error.

As time is a critical element of Table 13, the differing requirements for associate’s and bachelor’s degrees could be expected to play an important role.

**Table 14 Share of undergraduate degree holders who earned a bachelor’s degree by ethnicity, birth origin, and age (%)**

<b>age:</b>	<b>20-24</b>	<b>25-29</b>
<b>Hispanic, domestic-born</b>	<b>60.3</b>	<b>80.7</b>
<b>Hispanic, foreign-born</b>	<b>80.7</b>	<b>44.1</b>
<b>Non-Hispanic, domestic-born</b>	<b>67.2</b>	<b>75.2</b>
<b>Non-Hispanic, foreign-born</b>	<b>67.4</b>	<b>78.6</b>

Given the gaps identified in Table 12, it might seem plausible that Hispanic immigrants’ performance (Table 13) was a result of earning high numbers of Associate’s Degrees. Table 14 suggests that this is not the case for 20-24 years. Undergraduate degree-holding Hispanic immigrants in their early-twenties were most likely to have earned a bachelor’s degree. However, among the ages of 25-29, this group was least likely (while domestic-born Hispanics were most likely). It should also be noted, as Table 14 illustrates, that any

achievement gaps between immigrant and domestic-born non-Hispanics have totally disappeared.

In an important way, Table 14 is not quite the same as earlier tables. Those reported a clear success event relative to a mostly clear failure event, such as college dropouts (Table 12). Table 14 instead focuses on the better of two good things. Bachelor’s degree holders do find better jobs and earn higher incomes. There are nonetheless many paying jobs in Indiana that require the education of an associate’s degree holder.

Moreover, a focus on community college and associate’s degrees may be particularly important to address the lagging performance of Hispanics and Hispanic immigrants in earlier tables. The opportunities available from two years of college work as opposed to four years of college work might be appealing to those who are hesitant about higher education or who face contextual (e.g., income) or structural (e.g., documentation status) obstacles to entry into postsecondary education.

This does not necessarily mean that immigrant and non-immigrant Hispanics will necessarily find the community college system as it now exists to be satisfactory. Many of the jobs requiring postsecondary experience short of a Bachelor’s Degree are also important in industries such as advanced manufacturing and life sciences that are critical to Indiana’s future prosperity. But employers say they are struggling to fill these jobs with the current output from Indiana’s community college system.<sup>xii</sup>

Still, the more bachelors’ degrees earned by all groups illustrated in Table 14, the better. Bachelors’ degrees provide access to advanced knowledge occupations and open the door to graduate degree attainment, as exhibited in Table 15.

**Table 15 Share of bachelors’ degree holders in graduate school or with a graduate degree by ethnicity, birth origin, and age (%)**

age:	20-24	25-29
<b>Hispanic, domestic-born</b>	<b>47.6</b>	<b>29.5</b>
<b>Hispanic, foreign-born</b>	<b>51.6</b>	<b>29.4</b>
<b>Non-Hispanic, domestic-born</b>	<b>23.6</b>	<b>30.7</b>
<b>Non-Hispanic, foreign-born</b>	<b>49.4</b>	<b>61.1</b>

Table 15 further illustrates that differences at lower levels of education between immigrants and non-immigrants or between Hispanics and non-Hispanics have been eliminated or altered at more advanced levels of education. There is no effective difference among domestic-born Hispanics, immigrant Hispanics, and immigrant non-Hispanics in their shares of 20-24 year-old bachelor’s degree holders who go on to graduate school. Likewise there is no real gap among domestic-born Hispanics, immigrant Hispanics, and domestic-born non-Hispanics in their shares of 25-29 year-old bachelor’s degree holders who went to graduate school. Note two outliers: immigrant non-Hispanics appear more likely to go on to graduate school; but domestic-born non-Hispanics appear less likely to go on to graduate school.

The biggest gaps in outcomes and thus the most inviting policy targets are in the late stages of students’ high school years and very early stages of their post-high school years.

The lag in high school graduation should be a core target. The lag in propensity to attend college should also be a core target. But if students enroll in college, commit to their studies, and remain in school, things begin to change. College dropout behavior is different for Hispanics (foreign- and domestic-born), but to a lesser degree. Later in the college experience, the differences become too minimal to justify special emphasis at the cost of earlier breakpoints.

The other part of the immigrant education picture offers other challenges for policy. At all stages of education, the highly educated non-Hispanic immigrant population demonstrates the potential to be an increasingly key resource for Indiana. Tables 2 through 15 admittedly rely on a single dataset that must be used with caution, but the implications of that dataset are indeed clear.

#### **IV. Clues to Variations and Convergences: SAT Performance of College-Bound Seniors**

The preceding discussion suggests that racial, ethnic, and place-of-birth cohorts experience wide variations in educational attainment outcomes at the high school and early post-high school levels. Language and income seem like very plausible causes. These variations then begin to converge at the postsecondary level.

Does this convergence result from a gradual skimming from the educational system of those suffering from various disadvantages and from poorer preparation? The prior analysis relied on breakpoints. For example, college participation was measured against the population who had graduated high school rather than the total population; college graduation was measured against the population who had attended college rather than the population who had earned high school diplomas; etc. Unfortunately, the data were unable to address the question of academic preparedness, and they could only examine known contextual disadvantages such as income or language in a limited manner.

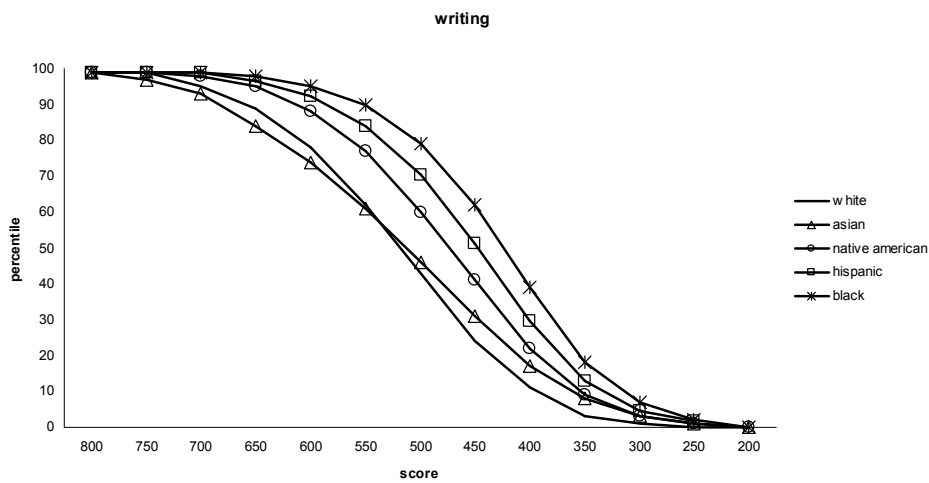
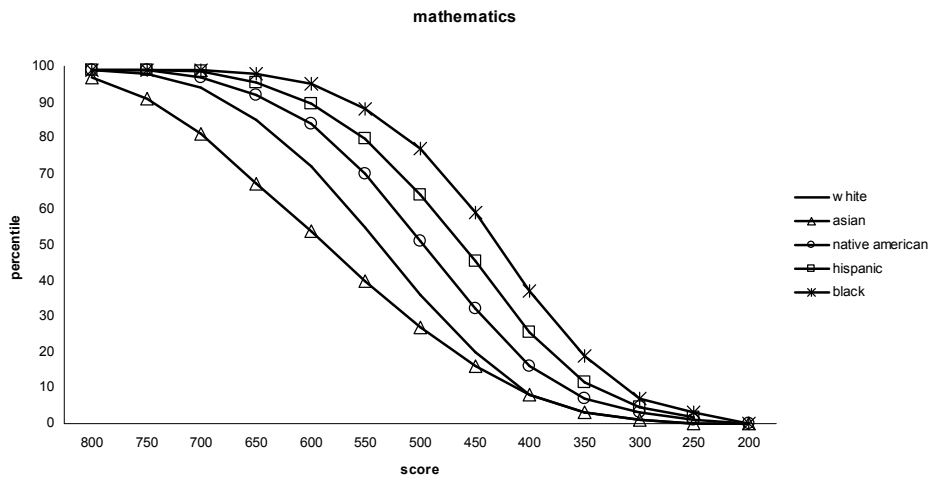
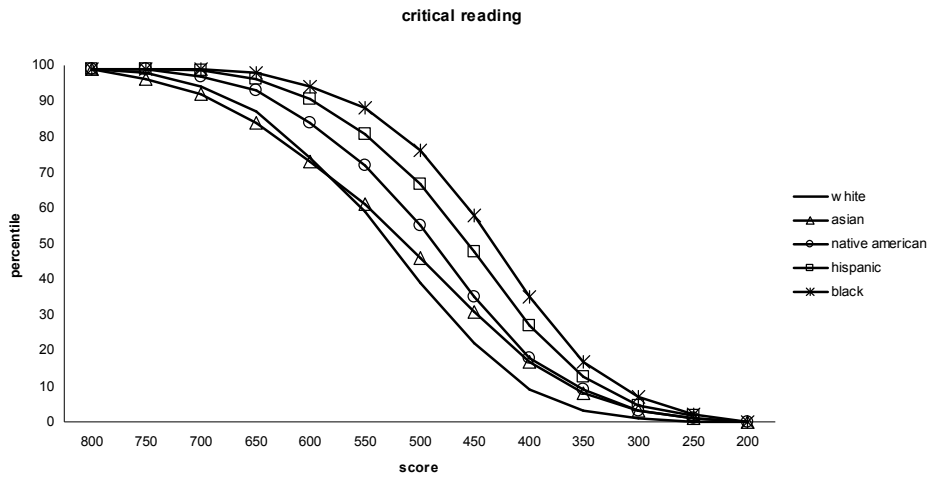
The causes of educational variations and convergences are nonetheless critical for Indiana's future. The state faces one kind of challenge if, for example, immigrant Hispanic high school dropouts are educationally uncompetitive, but immigrant Hispanic high school graduates are as well-prepared for postsecondary education as other groups. The state faces an entirely different kind of challenge if all Hispanic immigrants suffer from relatively poor academic preparation, if the particularly uncompetitive students drop out from high school, but those who remain are only marginally more competitive than those who leave.

There are many reasons to expect the latter. For instance, the state's Hispanic immigrant population is concentrated geographically in Lake and Marion Counties,<sup>xiii</sup> both of which have urban school districts that are associated with low educational outcomes and face complicated reform challenges. On the other hand, there are also reasons to expect that high school graduation effectively winnows unprepared Hispanic immigrants out of the educational system. People interviewed in this study, from administrators to teachers to students, tell of cultural and family pressures on students to drop out of high school in order to get paying work.<sup>xiv</sup> Those with the strength to resist such pressures might be just as likely as any other student to study hard and look forward to a bright future of college and rewarding careers. Such students might even be more serious about their studies, having overcome the temptation to overvalue the present at the expense of the future.

One way to examine these issues is SAT scores. The SAT is an imperfect analytical tool for this question: regardless of its overall validity in predicting postsecondary performance, there has long been evidence that race and ethnicity affect SAT performance. Immigrant status would logically be expected to play a role, as well. Nonetheless, it does provide a useful comparative measure. SAT scores nationally suggest that all Hispanic students, even those who graduate high school, are less prepared than students from other demographic groups (Graphic 3).



**Graphic 3 Percentile rank of SAT scores by race or ethnicity, 2007 U.S. college-bound seniors**



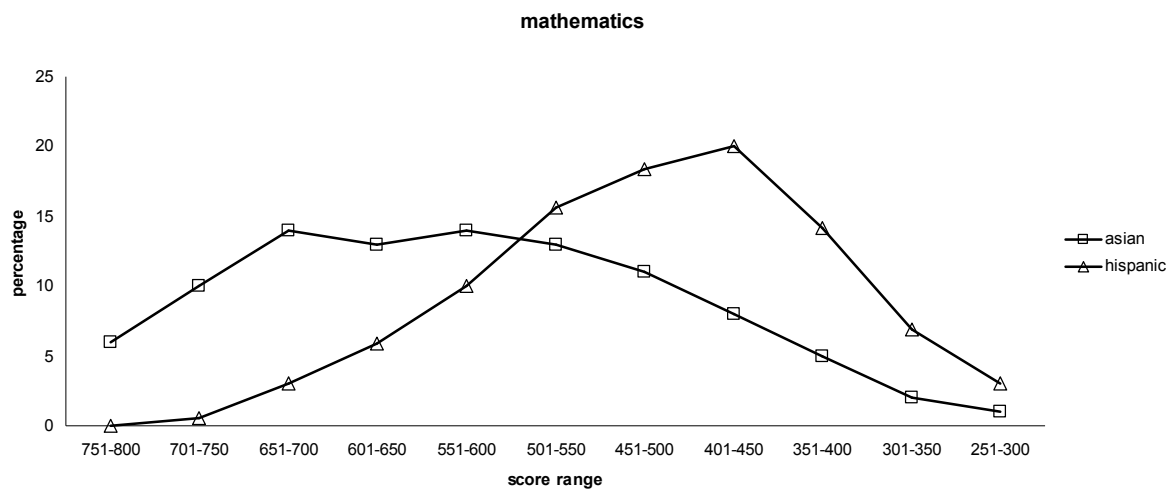
Graphic 3 relies on a common method for reporting standardized test distributions, a percentile rank. A percentile rank at a given score level reports the percentage of all test takers who scored at or below that level. For example, a percentile rank of 50 at a score of 500 would imply that 50 percent of test takers scored at or below 500.

As such, curves that are relatively left-shifted, such as the curve for Asians in the mathematics panel of Graphic 1, are associated with higher scores. A smaller percentage of Asians scored at or below any given score level in mathematics than other groups

Graphic 3 clearly shows that Hispanics struggle on the SAT. Indeed, the mean Critical Reading score for all test-takers was 502 (out of 800). Among Hispanics, the mean was 458. For Mathematics, the difference was 515 versus 463. For Writing, it was 494 versus 450.

An implicit conclusion of Graphic 3 is that the different demographic groups have different amounts of “skew” in their distribution. For example, if one were to translate the mathematics curves in Graphic 3 for Asians and Hispanics into the percentage that scored at various score ranges, the result would be Graphic 4.

**Graphic 4 Distribution of mathematics scores among 2007 U.S. college-bound Asians and Hispanics**



Graphic 4 shows two very different types of distributional skew. A leftward skew is exemplified by Asians. They have a relatively high percentage in the range just above their mathematics mean of 578. They also have a very high percentage that earns the best scores available, with approximately one-in-six Asians earning better than 700 on the mathematics section of the test. Only one in one hundred Hispanics scores that well.

The lower Hispanic test averages are not the product of a high share of test-takers that posts the best scores accompanied by an even higher share that posts the worst scores. Instead, it is the product of an extremely low number that posts the best scores and an extremely high number that earns scores in the 350s to lower 500s. This fact supports a conclusion that the large number of dropouts among Hispanics does not create a residual cohort that is nearly as, or even remotely as, prepared for college as their peers in other

racial and ethnic groups, at least so far as the SAT is able to measure college preparedness.

This notion is further confirmed by the share of Hispanic high school students who signal their intention to attend college by taking the SAT. The analysis of Census Bureau data suggests that low Hispanic educational attainment was mostly a product of two behaviors: the low rate of high school graduation and the low rate of college attendance. The latter issue of college attendance experience in the general Hispanic population could be a function of multiple factors, however: high immigration among those in their late teens into Indiana for the purpose of work, lack of financial ability to attend college regardless of intention or desire, low acceptance rates, and so on. The pattern of SAT test-taking helps clarify the picture.

Among Year 2006 college-bound high school seniors in Indiana, 1,210 Hispanics took the SAT. For that graduation cohort, there were an estimated 1,953 Hispanics who graduated from Indiana public high schools. As such, SAT takers represented 62 percent of public Hispanic high school graduates in 2006. Among the non-Hispanic student population, 71 percent of 2006 high school graduates took the SAT.

These results are not far off the college attendance rate shown in Table 11. Among domestic-born Hispanics, the college attendance rate was 61.4 percent for 20-24 year-olds. Among domestic-born non-Hispanics, the rate was 68.7 percent of 20-24 year-olds.

On the one hand, the share of students who take the SAT (commonly known as the SAT participation rate) further confirms the impression that a relatively large share of Hispanics has no intention to attend college, even if they graduate high school. On the other hand, the SAT scores of those who do intend to go to college confirm the impression of relatively low educational competitiveness among Hispanics (Table 16).

**Table 16 Mean SAT scores by race or ethnicity for 2007 college-bound seniors in Indiana**

	<b>Reading</b>	<b>Math</b>	<b>Writing</b>
<b>White</b>	<b>503</b>	<b>514</b>	<b>489</b>
<b>Asian</b>	<b>510</b>	<b>571</b>	<b>502</b>
<b>Native American</b>	<b>476</b>	<b>486</b>	<b>462</b>
<b>Hispanic</b>	<b>464</b>	<b>471</b>	<b>450</b>
<b>Black</b>	<b>428</b>	<b>425</b>	<b>421</b>
<b>Total</b>	<b>497</b>	<b>507</b>	<b>483</b>

Table 16 does not explicitly demonstrate the impact of immigrant status on SAT performance. The total Hispanic population does, of course, include large numbers of immigrants. The same is true for Asians. However, Table 11 suggested that Hispanic immigrants attended college at extremely low rates. Only an estimated 16 percent of immigrant Hispanic 20-24 year-olds had attended college or earned an undergraduate degree in the Year 2006. However, the interpretation of that finding is bound by the same considerations explained earlier, such as a possible high proportion of 20-24 year-olds who only came to Indiana as a worker in their late teens and were never Indiana high school students.

As with the congruence between the overall college attendance rates found in Census Bureau data and the ratios between the number of SAT test-takers and the number of high school graduates, SAT results imply that Table 11 reflects the behavior of actual high school students in Indiana. As a group, non-citizens earn a mean Critical Reading score well below the average for all students (457) as would be expected since many read English as a second (or third) language. The average mathematics score of non-citizens, however, is well above the average for all students (526). Their mean writing score (460) is close to the reading mean score and well below the average for all students.

Hispanics post mean scores well below the all-student average for each section of the test (Table 16). Non-citizens score a mean of 526 on the mathematics section, 19 points above the average for the total group, while Hispanics score a mean of 471 on the mathematics section, 36 points below the average for the total group. This suggests that non-citizens compose a relatively small share of Hispanic SAT-takers. To be sure, the data cannot conclusively produce this interpretation, but the inference is strong.

A similar inference follows when the language experience of test-takers is considered (Table 17).

**Table 17 Mean SAT scores by first language learned for 2007 college-bound seniors in Indiana**

	<b>Reading</b>	<b>Math</b>	<b>Writing</b>
<b>English</b>	<b>499</b>	<b>508</b>	<b>485</b>
<b>English and another language</b>	<b>485</b>	<b>501</b>	<b>476</b>
<b>Another language</b>	<b>463</b>	<b>520</b>	<b>461</b>

As Table 17 illustrates, the very highest scores for those sections of the test associated with verbal skills are posted by examinees who learned English before any other language. This is hardly surprising. Nor is the fact that test-takers who first learned a non-English language exhibit the worst mean verbal scores. However, it may be surprising that this same group earned the highest mean mathematics score. The worst mean mathematics score was earned by test-takers who apparently learned English and another language at the same time.

These results hint at a number of interesting dynamics. First, initial exposure to English is evidently not critical to success on the mathematics portion of the test and thus would not seem to explain the low Hispanic math scores. This again suggests that immigrants represent a fairly small fraction of Hispanic test-takers. However, students who grew up in bilingual households, which would presumably represent a large share of the new Hispanic households in Indiana, fare more poorly on the mathematics section of the exam than students with other language backgrounds.

## **V. More Clues to the Causes of Variation: SAT Performance of Indiana Public College Students**

The college-bound senior classes described in the preceding section signaled their intention of attending college by taking the SAT. Not all of them will have fulfilled that intention. Those that did enter college have done so in institutions across the country.

This section extends the analysis of the relationship between SAT scores and college experience into the postsecondary environment. It examines students in every public college and university in Indiana over the 2006-07 school year. The overwhelming majority of these students are from Indiana originally. Several thousand are not.

The dataset on which this section is based was generously provided by the Indiana Commission for Higher Education. The full dataset contains nearly 350,000 unidentified student records across dozens of variables. Data is not necessarily reported in every possible cell, meaning that a particular query or track of analysis may not include the database's full population. Still, there are generally thousands, even tens of thousands, of students described by most of the tables and discussions that follow.

The data seem to confirm the generally held conclusion that SAT scores help to predict a student's eventual college success. This prediction is reflected in Table 18.

**Table 18 Mean SAT scores of Indiana public undergraduate college students by class level, 2006-07**

	<b>Verbal</b>	<b>Math</b>	<b>Composite</b>
<b>Associate freshman</b>	<b>464</b>	<b>468</b>	<b>934</b>
<b>Associate sophomore</b>	<b>468</b>	<b>477</b>	<b>945</b>
<b>Bachelor freshman</b>	<b>508</b>	<b>520</b>	<b>1029</b>
<b>Bachelor sophomore</b>	<b>518</b>	<b>528</b>	<b>1046</b>
<b>Bachelor junior</b>	<b>523</b>	<b>532</b>	<b>1055</b>
<b>Bachelor senior</b>	<b>524</b>	<b>533</b>	<b>1057</b>

In both associate and bachelor degree tracks (Table 18), successive class levels are correlated with higher mean SAT scores. A typical sophomore in the state's public associate degree programs has a composite score that is 11 points higher than the typical associate degree freshman. The average composite score for freshmen in bachelor degree programs is 28 points lower than the average score of seniors in bachelor degree programs. Again, this is not conclusive proof of the predictive ability of SAT scores, not least because the data is not longitudinal, and instead simply shows the SAT scores of distinct class levels in the 2006-07 school year. Average SAT scores also vary widely across Indiana's public postsecondary institutions. The data contained in Table 18, however, strongly substantiates that higher SAT scores are associated with a greater likelihood of college success.

The degree to which this pattern is true of various demographic sub-groups, including immigrants, clarifies the role of high school preparation in their various college experiences. Table 19 depicts the experiences of different races and ethnicities.

**Table 19 Mean composite SAT scores of Indiana public undergraduate college students by class level and race/ethnicity, 2006-07**

	<b>Asian</b>	<b>Black</b>	<b>Hispanic</b>	<b>White</b>
<b>Associate freshman</b>	<b>969</b>	<b>808</b>	<b>881</b>	<b>946</b>
<b>Associate sophomore</b>	<b>987</b>	<b>812</b>	<b>898</b>	<b>954</b>
<b>Bachelor freshman</b>	<b>1105</b>	<b>874</b>	<b>965</b>	<b>1038</b>
<b>Bachelor sophomore</b>	<b>1117</b>	<b>899</b>	<b>973</b>	<b>1054</b>
<b>Bachelor junior</b>	<b>1125</b>	<b>903</b>	<b>988</b>	<b>1063</b>
<b>Bachelor senior</b>	<b>1125</b>	<b>898</b>	<b>988</b>	<b>1064</b>

In nearly every case, higher class levels are associated with higher SAT scores (Table 19). The sole exceptions are the differences between the junior and senior baccalaureate years of Asians, blacks, and Hispanics. Table 19 thus suggests that the SAT remains an indicator of likely success for each race and ethnicity, just as it is for the total public undergraduate population in Indiana. Correspondingly, the data seem to indicate that those with lower SAT scores are winnowed out of the postsecondary system as their better scoring peers proceed to higher class levels.

As such, there are important differences among the groups illustrated in Table 19. While all exhibit the same general trend, the exact point at which the largest winnowing appears to occur is varied. The largest baccalaureate gap for Asians (12 points), blacks (25 points), and whites (16 points) exists between the freshman and sophomore class levels. The largest gap for Hispanics (15 points) exists between the sophomore and junior class levels. This finding implies that a large share of Hispanics may drop out of college between their sophomore and junior years.

Indeed, the ratio of the size of the Hispanic junior class to the Hispanic sophomore class in 2006-07 was lower than for any other demographic group (Table 20).

**Table 20 Size ratio of 2006-07 public undergraduate Indiana baccalaureate classes to the preceding class by race/ethnicity (%)**

	<b>Asian</b>	<b>Black</b>	<b>Hispanic</b>	<b>White</b>
<b>Sophomore/freshman</b>	<b>69</b>	<b>59</b>	<b>61</b>	<b>73</b>
<b>Junior/sophomore</b>	<b>96</b>	<b>92</b>	<b>82</b>	<b>96</b>

As Table 20 reveals, the ratios of the sophomore-to-freshman class sizes can effectively be broken into two groups. Sophomore classes of whites and Asians are about 70 percent of the size of their freshman classes. The ratios for blacks and Hispanics are about ten percentage points lower. The ratios of junior-to-sophomore class sizes can also be more or less broken into two groups, except Hispanics stand alone in this case. Their ratio is ten percentage points lower than blacks and a full 14 percentage points lower than whites and Asians. Ultimately, the size of the Hispanic junior class was just 50 percent of the size of the Hispanic freshman class. For blacks, the figure was 55 percent; Asians stood at 66 percent. The highest ratio was among whites at 70 percent.

To be sure, some part of the low Hispanic ratio is driven by the data's nature as a static capture of 2006-07 enrollment patterns while Hispanic enrollment grows over time.

Increasing enrollment would generate a depressive effect on the static ratio of a higher class level to a lower class level. However, enrollment growth cannot fully explain Table 20. For example, Hispanic undergraduate enrollment in public Indiana postsecondary institutions increased by 2.7 percent from the 2004-05 to 2005-06 school years; Asian and Pacific Islander enrollment increased by 5.4 percent over the period.

Tables 19 and 20 considered together drive another important implication. The sophomore-to-freshman class ratios of blacks and Hispanics are roughly equal at 60 percent. The change in average SAT score from the freshman to sophomore years is not similar for the two groups. The mean black SAT score increased by 25 points. The mean Hispanic SAT score increased by only eight points. Despite a much lower sophomore-to-freshman ratio than among whites and Asians, mean Hispanic SAT scores also increased by a smaller amount than whites (16 points) and Asians (12 points). The inference would be that the distribution of sophomore year Hispanic students was relatively more similar to the distribution of freshman year Hispanics than was the case for the other groups. In other words, in a static sense, the “lost” enrollment between the freshman and sophomore classes of Asians, whites, and, especially, blacks was more associated with lower scoring students than was true of Hispanics.

Conversely, even though the ratio between the junior and sophomore class sizes of Hispanics was higher than the ratio between the Hispanic sophomore and freshman class sizes, there was a larger gap in average SAT score. This suggests that, between the sophomore and junior years, the “lost” Hispanic enrollment was more associated with students who score low on the SAT.

The data on SAT scores by class level and race/ethnicity present a complicated picture. It is clear that for every group, higher class levels are associated with higher SAT scores. However, the gaps in SAT scores remain more or less the same regardless of class level. Each group may reach a point—between the freshman and sophomore years in the case of Asians, blacks, and whites or between the sophomore and junior years in the case of Hispanics—when their members who score most poorly on the SAT do not progress in the postsecondary system. The wide variation in the starting points of the groups nonetheless persists throughout the undergraduate experience.

Again, there is a limit to which the data from a single school year can address what are ultimately longitudinal questions. There is simply no way to dissect the true lost or dropout population from the freshman cohort that now comprises today’s juniors or seniors. There may also be other factors at work. The selectivity of Indiana’s public institutions also varies widely. Complicating the policy implications, the preceding tables include both students from Indiana and students from elsewhere. These matters are the subject of the next discussion.



**Table 21 Mean composite SAT scores of Indiana public undergraduate college students by class level and citizenship status, 2006-07**

	<b>Citizen</b>	<b>Resident alien</b>	<b>Non-resident alien</b>
<b>Associate freshman</b>	<b>934</b>	<b>n/a</b>	<b>n/a</b>
<b>Associate sophomore</b>	<b>945</b>	<b>829</b>	<b>1007</b>
<b>Bachelor freshman</b>	<b>1027</b>	<b>1011</b>	<b>1123</b>
<b>Bachelor sophomore</b>	<b>1044</b>	<b>1029</b>	<b>1132</b>
<b>Bachelor junior</b>	<b>1054</b>	<b>1069</b>	<b>1129</b>
<b>Bachelor senior</b>	<b>1055</b>	<b>1047</b>	<b>1129</b>

For citizens and resident aliens (non-citizens who are nonetheless residents of the U.S.), the familiar relationship between increasing SAT scores and increasing class levels is present. The lone exception is the SAT scores of baccalaureate seniors relative to baccalaureate juniors. This may be partly a function of small enrollment size engendering greater sensitivity in SAT averages. Table 21 includes only 154 juniors who were resident aliens, for example. Moreover, this is, again, the only case among citizens and resident aliens in which the traditional pattern is not reflected.

There are two aspects of Table 21 that may be more surprising. First, the traditional trajectory of educational progress (Graphic 1) is only weakly present for non-resident aliens (for the most part, students who come to the U.S. specifically for college). Only six points separate the average SAT score of non-resident alien freshman and their average score as seniors.

Second, there is perhaps less difference between the average scores of citizens and resident aliens than many might expect. The latter is particularly important to Indiana’s longer term public interest. Non-resident alien students have the potential to be important resources for Indiana’s economic development. In many cases, they already are. A greater focus on their talents is an explicit recommendation of this project. These issues aside, from the perspective of postsecondary preparation and early postsecondary success, they ought to be much less a focus than resident aliens. The fact that, as a group, these immigrants (who often are products of Indiana and other U.S. secondary schools) post SAT scores that are fairly competitive with U.S. citizens is encouraging at a time when the pace of international immigration to Indiana is increasing.

The consistent variation in SAT performance among races and ethnicities—not to mention the differences between Hispanic and non-Hispanic immigrants identified earlier in this study—hint that the SAT scores of immigrants as a group obscure important detail. In fact, the racial and ethnic identity of immigrants is associated with strong variation in scores (Table 22).

**Table 22 Mean composite SAT scores of Indiana public baccalaureate students by class level, race/ethnicity, and citizenship status, 2006-07**

	<b>Freshman</b>	<b>Sophomore</b>	<b>Junior</b>	<b>Senior</b>
<b>Asian, citizen</b>	<b>1111</b>	<b>1121</b>	<b>1127</b>	<b>1135</b>
<b>Asian, resident alien</b>	<b>1066</b>	<b>1078</b>	<b>1119</b>	<b>1052</b>
<b>Black, citizen</b>	<b>874</b>	<b>898</b>	<b>903</b>	<b>897</b>
<b>Black, resident alien</b>	<b>891</b>	<b>910</b>	<b>964</b>	<b>909</b>
<b>Hispanic, citizen</b>	<b>967</b>	<b>975</b>	<b>990</b>	<b>988</b>
<b>Hispanic, resident alien</b>	<b>917</b>	<b>911</b>	<b>931</b>	<b>979</b>
<b>White, citizen</b>	<b>1038</b>	<b>1054</b>	<b>1062</b>	<b>1064</b>
<b>White, resident alien</b>	<b>1055</b>	<b>1090</b>	<b>1110</b>	<b>1096</b>

From the freshman through junior years, the relative rank of each group’s mean SAT score for citizens is frequently the same as the relative rank of each group’s mean SAT score for resident aliens. Asians have the highest scores in both cases; whites have the second highest; and so on. The glaring exception is Hispanic resident aliens in their junior year. Hispanic citizens post an average score 87 points above black citizens. Hispanic resident aliens’ average score is 33 points below that of black resident aliens. No doubt this is partly a function of the sensitivity associated with small enrollment size: only ten black resident aliens reported SAT scores.

The junior year Hispanic scores also point to another important element of Table 22. For blacks and whites, resident aliens’ SAT scores are higher than citizens’ SAT scores. For Asians and Hispanics, resident aliens’ SAT scores are lower than those of citizens. The obvious contextual difference between the both sets of demographic groups is the importance of immigration to their overall population growth. Resident aliens represented just 1.1 percent of the black enrollees in Table 22 and a scant 0.2 percent of the table’s white enrollees. Either share is a far cry from the 10.8 percent share among Asians. The role of immigration rates is not, however, clear in relation to Hispanics. Resident aliens represented 3.0 percent of the Hispanic students in Table 22, much closer to the white and black rates than to the Asian rate. The causal effect of high immigration rates is further called into question when one considers that the gap between citizen and resident alien scores is larger for Hispanics than for Asians from the freshman through junior years.

The uniqueness of immigrant Hispanics prompts a treatment, as in prior sections, of the nexus of race, ethnicity, and citizenship status wherein non-Hispanic groups are aggregated. Even when this is done, however, the low rate of Hispanic enrollment (citizen, resident alien or non-resident alien) becomes an important and surprising dynamic. Table 23 depicts the problem.

In no case was there enough non-citizen Hispanics for the data to be disclosed. Most surprisingly, the number of citizen Hispanics rose to a level that could be disclosed at only 16 of the 29 public Indiana campuses. The same was generally true of non-Hispanic non-citizens. For the most part, data about resident aliens could only be reported at the major campuses. Non-resident alien data could not be reported for any campus. It should be noted, however, that this threshold involved students for which race/ethnicity, citizenship, and SAT scores were known. Were that condition relaxed, such as including students with no known SAT scores, the enrollment figures would be higher.

**Table 23 Average composite SAT scores of freshman in 2006-07 by institution, with racial/ethnic/citizen scores as a percent of average institutional composite**

	<b>citizen</b>	<b>non-Hisp. res. Alien (%)</b>	<b>Non-Hisp. Citizen (%)</b>	<b>Hispanic (%)</b>
<b>Purdue West Lafayette</b>	<b>1119</b>	<b>100</b>	<b>103</b>	<b>95</b>
<b>Indiana Bloomington</b>	<b>1112</b>	<b>100</b>	<b>99</b>	<b>97</b>
<b>Ball State</b>	<b>1019</b>	<b>100</b>	<b>n/a</b>	<b>100</b>
<b>IUPUI</b>	<b>991</b>	<b>100</b>	<b>89</b>	<b>98</b>
<b>Ivy Tech Madison</b>	<b>990</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>IPFW</b>	<b>978</b>	<b>100</b>	<b>n/a</b>	<b>96</b>
<b>Ivy Tech Muncie</b>	<b>975</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Ivy Tech Lafayette</b>	<b>966</b>	<b>100</b>	<b>n/a</b>	<b>97</b>
<b>Indiana Kokomo</b>	<b>953</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Purdue North Central</b>	<b>951</b>	<b>100</b>	<b>n/a</b>	<b>99</b>
<b>Ivy Tech Bloomington</b>	<b>950</b>	<b>100</b>	<b>n/a</b>	<b>103</b>
<b>Indiana South Bend</b>	<b>948</b>	<b>101</b>	<b>84</b>	<b>91</b>
<b>Indiana Southeast</b>	<b>944</b>	<b>100</b>	<b>n/a</b>	<b>92</b>
<b>Southern Indiana</b>	<b>939</b>	<b>100</b>	<b>n/a</b>	<b>89</b>
<b>Ivy Tech Columbus</b>	<b>928</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Indiana East</b>	<b>926</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Indiana State</b>	<b>924</b>	<b>100</b>	<b>n/a</b>	<b>104</b>
<b>Ivy Tech Fort Wayne</b>	<b>921</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Purdue Calumet</b>	<b>918</b>	<b>101</b>	<b>n/a</b>	<b>94</b>
<b>Ivy Tech Evansville</b>	<b>908</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Ivy Tech South Bend</b>	<b>905</b>	<b>100</b>	<b>n/a</b>	<b>93</b>
<b>Ivy Tech Kokomo</b>	<b>904</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Ivy Tech Indianapolis</b>	<b>903</b>	<b>100</b>	<b>n/a</b>	<b>97</b>
<b>Ivy Tech Terre Haute</b>	<b>899</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Ivy Tech Sellersburg</b>	<b>897</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Ivy Tech Richmond</b>	<b>895</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Indiana Northwest</b>	<b>895</b>	<b>100</b>	<b>n/a</b>	<b>98</b>
<b>Vincennes</b>	<b>894</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>
<b>Ivy Tech Gary</b>	<b>850</b>	<b>100</b>	<b>n/a</b>	<b>n/a</b>

Aside from the issue of low Hispanic enrollment, Table 23 supports a suspicion that Hispanic SAT scores, while generally low—approximately 94 percent of both the average associate degree freshman score and the average baccalaureate freshman score—are often more in line with the individual institutions that Hispanics attend. This is particularly true of the major or administrative campuses. Freshman Hispanic citizens’ average scores were 104 percent of the all-freshman average at Indiana State, 100 percent at Ball State, 98 percent at IUPUI, 97 percent at Indiana University-Bloomington, 97 percent at Ivy Tech’s Central Campus, 96 percent at IPFW, and 95 percent at Purdue-West Lafayette. Many of these campuses, particularly IU-Bloomington and Purdue-West Lafayette, are of course relatively more selective and appear to admit Hispanic students consistent with that selectivity.

There is also another group of campuses at which freshman Hispanic SAT scores are fairly in line with the all-freshman average. These are campuses close to major Hispanic population centers. One suspects this could be the critical dynamic with Ivy Tech’s

Central Campus rather than its association with the system's administrative offices; this might be the case of IUPUI as well. Ivy Tech-Lafayette, Purdue-North Central, and Indiana-Northwest all enrolled Hispanic freshmen who had SAT scores relatively similar to those of their peers. The high ratio between Hispanic and non-Hispanic SAT scores at Ivy Tech-Bloomington also bears mention. This could be a function of cross-enrollment with Indiana University, and seems less anomalous if one views cross-enrollment as a possible additional or alternative explanation for the scores at Ivy Tech-Lafayette.

On the other end of the spectrum, freshman Hispanic SAT scores appear to be much lower than those of non-Hispanics at the remaining extension campuses of the various systems. A low ratio was also true at the University of Southern Indiana.

The more complicated picture of Hispanics' scores at individual institutions is a mixed blessing. On the one hand, Hispanics' scores should not leave them uniformly unprepared to perform as well as their campus classmates. So far as SAT scores can predict, those Hispanics who are admitted appear to be relatively agreeably suited to the demands of the state's major institutions.

On the other hand, Hispanics' SAT scores (and no doubt other factors in the admissions process) do leave them unprepared for entry to the state's more competitive campuses that offer the greatest educational and career opportunities. There is no evidence from SAT scores that Indiana, Ball State, Indiana State, and Purdue are dramatically altering their admissions criteria for Hispanic applicants. However, these institutions' greater selectivity has a cost for a cohort that seems to contain relatively few members with the required degree of preparation.

This also underscores an earlier theme of this paper. When it comes to prioritizing policy resources in the face of Hispanic in-migration, there may be more reward from a focus on the secondary system and poor high school graduation rates, the decision-making process of high school graduates and poor college attendance rates, and perhaps the earliest years in the postsecondary system than on later aspects of the K-16 continuum. It is also hard to reject a strategy that first emphasizes Hispanic secondary and postsecondary educational issues in general and treats the challenges of Hispanic immigration as a subset, albeit an important subset, of the larger problem.

## VI. Policy Preview

The Final Report of this study will lay out a set of policy suggestions and recommendations for immigrants and postsecondary education in Indiana that connect the three Working Papers and other research. This section highlights preliminary policy implications of the analyses of breakpoints developed in this Paper.

This Working Paper has confirmed the existence of two very different challenges of immigration and education for Indiana and every other state in the U.S. Indeed the two challenges are so different that we would hardly be exaggerating to speak of “two worlds of immigration in Indiana.” In short, Hispanics, throughout their college years, perform more poorly than non-Hispanics; and Hispanic immigrants perform much more poorly than native-born Hispanics. In the other “world,” non-Hispanic immigrants perform better in most respects (save those requiring strong command of English) than their domestic-born counterparts.

The first set of challenges, then, entails increasing the educational attainment of Hispanics and of Hispanic immigrants in particular. The second set of challenges involves cementing high performing immigrants (some of whom are from Latin America) to the Indiana workforce in order to increase the state’s medium- and long-run economic growth. The second set of challenges was discussed in the first Working Paper, and will be developed further in the Final Report.

The most important factor separating Hispanics (both domestic- and foreign-born) from other groups is high school graduation, which could be seen as a subset of preparation for postsecondary education. It is hard to change a student’s family income in the short run, but helping all students obtain the other main determinant of educational success — fluency in English — ought to be a top priority. The Final Report will examine several ideas about how to teach English to Hispanic newcomers in order to increase their chances of completing high school and entering postsecondary education.

The findings of the second Working Paper are apposite: many of the children of Hispanic immigrants come from families that lack more than English competence, families whose parents lack more than mere educational attainment. Their families lack experience interacting with bureaucratic-rational institutions such as schools in Indiana. In many cases, helping these parents recognize the importance of keeping their children in school will be an achievement ... but, it may be asking too much to expect them to assist their children with college applications. This increases the need for more active engagement by the groups identified in the second Working Paper: civic and voluntary organizations that can help meet needs of individual students and of groups without whipping up political storms that large public funding for programs targeted at immigrants might provoke.

Since preparation for higher education and graduation from high school are such high priorities, addressing this aspect of domestic- and foreign-born Hispanic students’ educational trajectory ought to be a secondary component of policies that are designed mainly to help college students.

A breakpoint that is less critical than high school graduation but nonetheless is significant comes in the first year or two of college when foreign- and domestic-born Hispanics appear to display a higher propensity to leave. Over the course of four years in college, the gaps between Hispanics and non-Hispanics in measures such as SAT scores diminish. It may be that many of those Hispanic students who drop out after a year are the least prepared with the lowest SAT scores, and thus the diminishing gap is a result of weeding out the lowest performing Hispanic students. But there are indications that the closing gap may even be more a result of persisting in college and gradually becoming accustomed to the institutions of education. A way of thinking of this might be to use three different concepts of investing in an education: human capital, social capital, and cultural capital.

Human capital is perhaps the most familiar for thinking about education. Students (or whoever subsidizes their education) invest in knowledge and training, which enable them to achieve greater occupational success than if they had not. Institutions of higher education offer students a multitude of strategies for enhancing their individual marketability for the workforce: degrees and/or certificates, financial aid to assist with paying for degrees, intern/externships, research opportunities, study abroad programs, libraries, access to technology, academic organizations, and diversity strategies. The more a student invests in human capital, the more attractive he/she will be to an employer, because as a potential employee he/she brings more skills and knowledge to a company than those who invested less. For a potential employer an employee with an abundance of human capital means less investment that the company will have to make to properly train the employee and thus a greater return for what the company does invest.

Of course facts in a classroom are only a part of what is learned in college. In addition to acquiring more knowledge and skills, students meet other people. They invest in social capital as well as human capital. That is part of the reason for joining a fraternity or a club -- to develop connections that might be useful later in life. Potential employees often need greater resources than just a degree and training. Employers often want employees who have broad and diverse backgrounds, can maintain relationships with people of differing cultures and societies, and can promote the company through their social and cultural networks.

Indiana's universities and colleges are constantly trying to improve Hispanic students' human and social capital. Their current approach is to offer opportunities that are attractive to a diverse society and will assist the students with achieving an education that will equip them to work within said society. Many universities in Indiana use a multi-prong approach to assist students to become successful students and prospective employees. This strategy includes recruiting greater numbers of minority students, focusing on the least represented ethnic groups (African Americans and Hispanics); providing academic support that is specifically tailored to minorities; and hiring more minority faculty members.

Consider some examples of Indiana universities reaching out to Hispanic students:

- Purdue University School of Engineering is considered a model. The *Hispanic Magazine* ranked the School of Engineering as #2 in the nation as the best school for

Hispanics in September 2006. This ranking is due to Purdue's commitment to engage and support Hispanic students through mentoring and tutoring programs such as the Minority Engineering Program and the University's Latino Cultural Center.

- Indiana University-Bloomington's Office of Academic Support and Diversity is responsible for increasing minority enrollment, especially for African Americans and Hispanics. The Office provides academic and cultural support, and works to enhance diversity across campus and in the classroom. The Office's ultimate goal is to raise minority students' graduation rate.
- In 2006, *Hispanic Magazine* ranked the University of Notre Dame as the 13<sup>th</sup> in the "Top 25 Colleges for Latinos". Notre Dame received its recognition due to commitment to diversify its student body, its outreach to Hispanic high school students, percentage of Hispanic faculty, support for Hispanic students, and Hispanic enrollment and achievement.
- In an effort to address the need of current and prospective Hispanic students, Goshen College established the Intercultural Center. Its mission is to increase Hispanic access to the school, strengthen recruiting strategies, and retain Hispanic students.

These are just a few of the efforts to increase Hispanic participation and completion of postsecondary education. Many small colleges and universities in Indiana also have similar methods for Hispanic retention, the responsibility for which resides with the schools' Multicultural Affairs Offices.

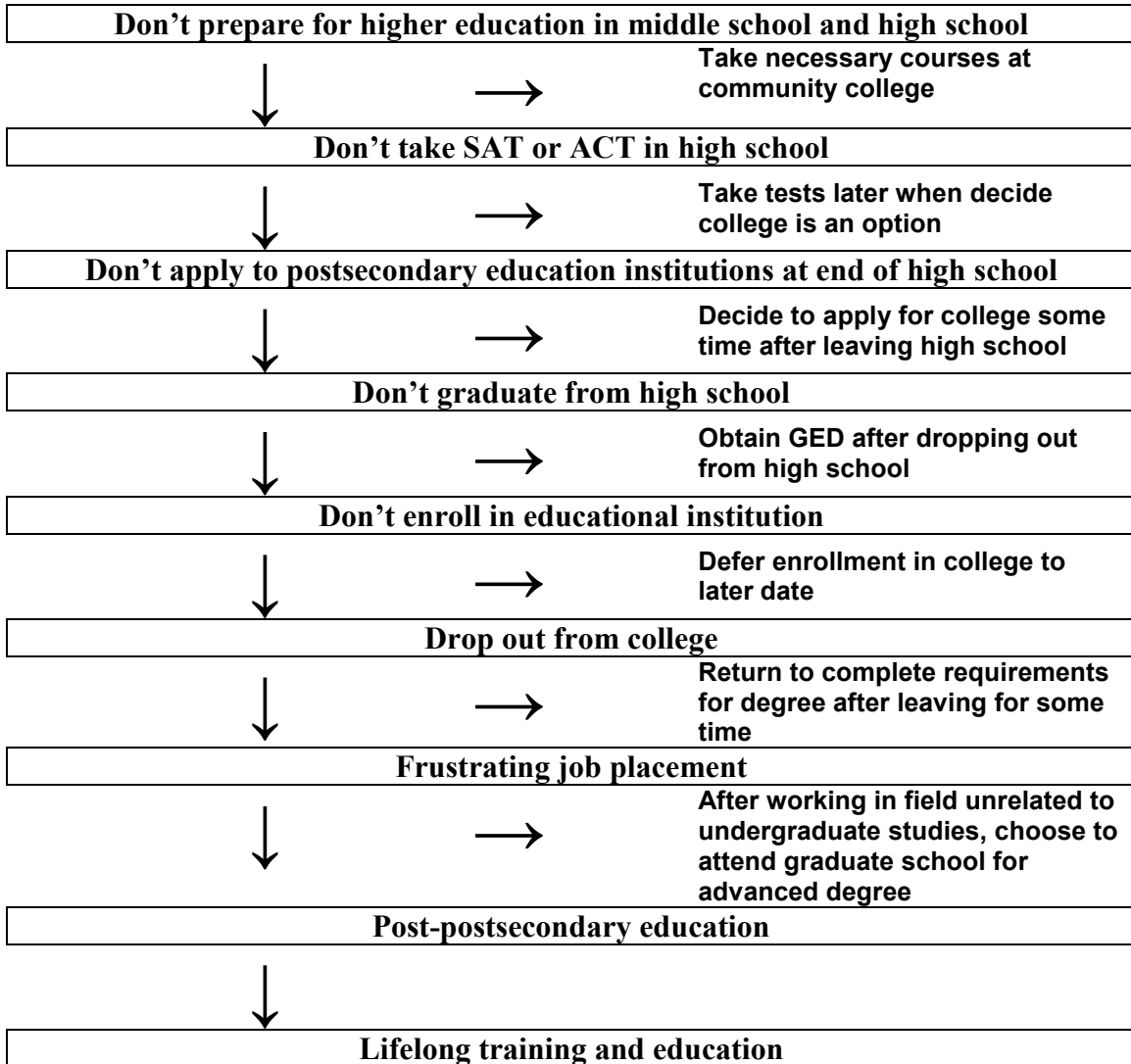
These programs are intended to help Hispanic students' investment in human and social capital, in their knowledge and networks, in what they know and who they know. Let us introduce a third variation to identify one more aspect of an investment in education: cultural capital. If human capital represents **what one knows**, and social capital **who one knows**, cultural capital might be thought of as **how one knows**. It refers to one's ability to navigate fluently through the formal and informal social expectations and barriers that make up a culture. In this sense, acquisition of cultural capital or acculturation could be seen as one of the most important aspects of education for immigrants and ethnic minorities. They attend school in part to learn how to move through and how to flourish in the cultures of employment and business in wider society.

Viewed as investing in cultural capital, we can see more clearly how programs that colleges establish to help their Hispanic and immigrant students succeed in the world of postsecondary education should be designed to reach out to Hispanic youth of high school age and younger who are considering whether and how to enter the world of higher education. Goshen College's Intercultural Center has set this as one of its important goals. Helping these students fit more comfortably in different cultural contexts could help overcome the obstacles that contribute to domestic- and foreign-born Hispanics diverting from the trajectory of postsecondary education at the various breakpoints this study has highlighted.

Finally, the policy recommendation to be developed at greater length in the final report will highlight that diversions from the stylized educational trajectory are not permanent. It should be easy for individuals to follow different courses, as illustrated in Graphic 5.



**Graphic 5 Examples of returns to stylized postsecondary educational trajectory after diversion**



Immigrant Hispanics represent an exceedingly small share of overall Hispanic postsecondary enrollment. Too few Hispanics of any citizenship status attend the state's postsecondary institutions. Their absence from the state's community and junior college systems is especially troubling.

It is essential; therefore, that education administrators, elected officials, business leaders, and interested stakeholders seek solutions to this particular problem. By addressing the needs of the state's newcomers and encouraging and assisting them to participate in the wide-range of available educational opportunities, Indiana's decision makers can make a difference in the future of the state's workforce and economic development. Improving the human and social capital of all individuals is in the best interest of Indiana as it faces steady influx of new residents into the Hoosier Heartland.

**Indiana Occupational License Group  
(May or may not be closed to unauthorized residents)**

- |  |                                     |  |
|--|-------------------------------------|--|
| 1. Accountancy Professional Corp       | 37. Chiro Graduate Permit           | 76. Engineering Professional Corporation   |
| 2. Accounting Practitioner             | 38. Chiro Temporary Permit          | 77. Esthetic Salon                         |
| 3. Acupuncture Detox Specialist        | 39. Chiropractic                    | 78. Esthetician                            |
| 4. Acupuncturist - DC                  | 40. Chiropractic Corporation        | 79. Esthetics Instructor                   |
| 5. Acupuncturist - DDS                 | 41. Chiropractor                    | 80. Firm Permit to Practice Acct           |
| 6. Acupuncturist - DPM                 | 42. Clinical Nurse Specialist       | 81. Funeral Branch                         |
| 7. Appraiser CE Provider               | 43. Clinical Social Worker          | 82. Funeral Director                       |
| 8. Appraiser Temporary Permit          | 44. Closed Circuit TV               | 83. Funeral Director Intern                |
| 9. Appraiser Trainee                   | 45. Cosmetologist                   | 84. Funeral Director Only                  |
| 10. Architect                          | 46. Cosmetology Instructor          | 85. Funeral Home                           |
| 11. Architect Professional Corporation | 47. Cosmetology Shop                | 86. Health Facility Administrator          |
| 12. Athletic Trainer                   | 48. Cosmologist Candidate           | 87. Hearing Aid Dealer                     |
| 13. Athletic Trainer Corporation       | 49. Crematorium                     | 88. HFA Preceptor                          |
| 14. Auction Company                    | 50. CSR - Certified Nurse Midwife   | 89. HFA Preceptor Eligible                 |
| 15. Auction House                      | 51. CSR - Clinical Nurse Specialist | 90. HFA Provisional                        |
| 16. Auctioneer                         | 52. CSR - Dentist                   | 91. HFA Residential                        |
| 17. Audiologist                        | 53. CSR - Distributor               | 92. HFA Temporary Permit                   |
| 18. Authorized employee                | 54. CSR - Manufacturer              | 93. Hypnotist                              |
| 19. Barber                             | 55. CSR - Nurse Practitioner        | 94. Instructor Candidate                   |
| 20. Barber Instructor                  | 56. CSR – Osteopathic Physician     | 95. Journeyman Plumber                     |
| 21. Barber School                      | 57. CSR – Other                     | 96. Judge                                  |
| 22. Barber Shop                        | 58. CSR – Pharmacy                  | 97. Land Surveyor                          |
| 23. Behavioral Sciences Corporation    | 59. CSR – Physician                 | 98. Land Surveyor Professional Corporation |
| 24. Boxers                             | 60. CSR – Podiatrist                | 99. Landscape Architect                    |
| 25. Boxing Physician                   | 61. CSR –Research                   | 100.Licensed Acupuncturist                 |
| 26. Broker Continuing ED Sponsor       | 62. CSR – Veterinarian              | 101.Licensed Practical Nurse               |
| 27. CE Sponsor - Dental                | 63. Dental Anesthesia Permit        | 102.Licensed Residential Appraiser         |
| 28. CE Sponsor - HFA                   | 64. Dental Corporation              | 103.Limited Liability Company              |
| 29. CE Sponsor - SW Board              | 65. Dental Hygiene intern Permit    | 104.Limited Podiatry TMP                   |
| 30. Cemetery                           | 66. Dental Hygienist                | 105.Limited Scope Chiropractor             |
| 31. Certificate of Authority           | 67. Dental Intern Permit            | 106.Limited Scope DO                       |
| 32. Certified General Appraiser        | 68. Dentist                         | 107.Limited Scope MD                       |
| 33. Certified Nurse Midwife            | 69. Dietitian                       | 108.Manager                                |
| 34. Certified Public Accountant        | 70. Dietitian Corporation           | 109.Manicuring Salon                       |
| 35. Certified Residential Appraiser    | 71. Electrologist                   | 110.Manicurist                             |
| 36. CFY                                | 72. Electrology Instructor          | 111.Manicurist Candidate                   |
|  | 73. Electrology Salon               |  |
|  | 74. Embalmer Only                   |  |
|  | 75. Engineer Intern                 |  |

112. Marriage & Family Therapist  
 113. Master Cosmetologist  
 114. Matchmaker  
 115. Medical Corporation  
 116. Medical Residency Permit  
 117. Mental Health Counselor  
 118. Mobile Dental Facility  
 119. Multi-Profession Corporation  
 120. Non – Resident Pharmacy  
 121. Nurse Midwife  
 122. Nurse Practitioner  
 123. Nursing Corporation  
 124. Occ Therapy Assistant  
 125. Occupational Therapist  
 126. Occupational Therapy Corporation  
 127. Optometric Legend Drug Certificate  
 128. Optometrist  
 129. Optometry Corporation  
 130. Osteopathic Physician  
 131. Osteopathic Physician (03)  
 132. Pharmacist  
 133. Pharmacy  
 134. Pharmacy Corporation  
 135. Pharmacy Intern  
 136. Pharmacy Tech In-Training  
 137. Pharmacy Technician  
 138. Physical Therapist Assistant  
 139. Physical Therapist Corporation  
 140. Physical Therapist  
 141. Physician  
 142. Physician Assistant  
 143. Physician Assistant Corporation  
 144. Plumber Contractor  
 145. Plumbing Apprentice  
 146. Plumbing Corporation  
 147. Podiatric Corporation  
 148. Podiatrist  
 149. Podiatrist Temporary Permit  
 150. Private Detective  
 151. Private Detective Agency  
 152. Professional Engineer  
 153. Promoter  
 154. Psychologist  
 155. Psychologist Limited  
 156. Psychology Corporation  
 157. Public Accountant  
 158. Real Estate Associate Broker  
 159. Real Estate Branch Office  
 160. Real Estate Corporation  
 161. Real Estate Independent broker  
 162. Real Estate Partnership  
 163. Real Estate Principal Broker  
 164. Real Estate Professional Corporation  
 165. Real Estate Sales Person  
 166. Real Estate School  
 167. Referee  
 168. Registered Environmental Health Specialist  
 169. Registered Nurse  
 170. Registered Vet Tech  
 171. Respiratory Care practitioner  
 172. Sales Continuing Ed Sponsor  
 173. Second  
 174. Shampoo Operator  
 175. Social Worker  
 176. Speech Pathologist  
 177. Speech / Lan P/A Aide  
 178. Speech / Lan P/A Corporation  
 179. Student Hearing Aid Dealer  
 180. Student Temp RCP  
 181. Surveyor In Training  
 182. Tanning Facility  
 183. Temporary Clinical Social Worker Permit  
 184. Temporary Marriage & Family Therapist Permit  
 185. Temporary Mental health Counselor Permit  
 186. Temporary Social Worker permit  
 187. Temporary Athletic Trainer  
 188. Temporary DO Permit  
 189. Temporary LPN Permit  
 190. Temporary MD Permit  
 191. Temporary Occ Therapist Permit  
 192. Temporary OTA Permit  
 193. Temporary PA Permit  
 194. Temporary Plumbing Contractor  
 195. Temporary Psychologist Permit  
 196. Temporary PT Permit  
 197. Temporary PTA Permit  
 198. Temporary RCP Permit  
 199. Temporary RN Permit  
 200. Timekeeper  
 201. Trainer  
 202. Veterinarian  
 203. Veterinarian Corporation  
 204. Wholesale Drug Distributor

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ENDNOTES

<sup>i</sup> Adam B. Summers, *Occupational Licensing: Ranking the States and Exploring Alternatives* (Reason Foundation, August 2007). <http://www.reason.org/ps361.pdf>. This study uses an outdated list of occupations subject to licensing, and thus places Indiana's ranking in the middle of the pack. Its 204 occupations surpass California's 177, which the Reason Foundation lists as tops in the country.

<sup>ii</sup> See John Clark & Justin Heet, *Indiana Immigration and Workforce Patterns*, at <http://www.sipr.org/PDF/Indiana%20Immigration%20and%20Workforce%20Patterns.pdf>

<sup>iii</sup> The 1982 Supreme Court ruling *Plyler v. Doe* says all children have a right to free K-12 public education. In order to ensure that undocumented parents will not feel intimidated about sending their children to a government run school where word of their lack of immigration status might make its way to immigration authorities, schools are forbidden to inquire about their students' citizenship status.

<sup>iv</sup> Due to the influence of the error terms in the data, no attempt has been made to establish causality or even statistical correlation. Instead, the following discussion simply profiles the population suggested by the Census Bureau dataset.

<sup>v</sup> Courtney Burkey, John Clark, and Alberto Hernandez, *Children of Immigrants and Education in Indiana* at <http://www.sipr.org/PDF/Children%20of%20Immigrants.pdf.pdf>.

<sup>vi</sup> <http://mustang.doe.state.in.us/TRENDS/trends1.cfm?var=gradrt>. In its press release announcing the most recent high school graduation rates, Indiana Superintendent of Education Suellen Reed noted that the schools with the lowest graduation rates also had the highest proportion of Hispanic and Limited English Proficient students.

<sup>vii</sup> See Stephanie A. Bohon, et al. "Educational Barriers to New Latinos in Georgia," *Journal of Latinos and Education* 4:1 (2005): pp. 43-58.

<sup>viii</sup> U.S. Census Bureau, American Community Survey.

<sup>ix</sup> See *Indiana Annual State Report Card 2003* at <http://www.doe.in.gov/asap/docs/2003IndianaAnnual.pdf>.

<sup>x</sup> This would not be an issue if the data allowed exploration of a real high school graduation cohort, but that is not possible with the Census dataset.

<sup>xi</sup> See Kristen Renn and Karen D. Arnold, "Reconceptualizing Research on College Student Peer Culture," *The Journal of Higher Education* 74:3 (May/June 2003): pp. 261-291.

<sup>xii</sup> See John Clark & Justin Heet, *Indiana Immigration and Workforce Patterns*, at <http://www.sipr.org/PDF/Indiana%20Immigration%20and%20Workforce%20Patterns.pdf>

<sup>xiii</sup> *Connecting Mexico and the Hoosier Heartland*

<sup>xiv</sup> Courtney Burkey, John Clark, and Alberto Hernandez, *Children of Immigrants and Education in Indiana* at <http://www.sipr.org/PDF/Children%20of%20Immigrants.pdf.pdf>.

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## About the Project Team

**Dr. John Clark** (john@sipr.org) is a Senior Fellow at the Sagamore Institute for Policy Research and serves as the Immigration and Higher Education project's senior researcher. Clark researches immigration issues; international security and development; and civil society at the local, national, and international levels. His most recent research project at Sagamore was the "Connecting Mexico and the Hoosier Heartland" study, which identified and examined the growing economic and cultural linkages between Mexico and Indiana. In addition, he recently completed a study on East and Central European immigrants in Indiana. Clark has conducted research in a range of fields, including community-based organizations, education reform and human capital, energy security, trade and development. Prior to joining Sagamore, Clark was a Senior Fellow at Hudson Institute. During his tenure at Hudson, he served as a research fellow, senior fellow, director of the Center for Central European and Eurasian Studies, and assistant director of research. Clark received his B.A. from the University of Washington, and he earned his M.A. and Ph.D. in Political Science from the University of California at Berkeley.

**Alberto Hernandez** (alberto@sipr.org) is a research consultant at the Sagamore Institute for Policy Research, supporting this project by conducting Hispanic/Latino outreach, statewide interviews, and original research. In addition, Hernandez is a Spanish Instructor at Indiana University-Purdue University Indianapolis. He is a graduate of Purdue University, where he earned a B.A. in International Studies with a Spanish concentration.

**Courtney L. Burkey** (courtney@sipr.org) is a Research Fellow with the Sagamore Institute for Policy Research, devoting her time and energies to research, analysis and interviews in support of the Immigration and Higher Education project. Prior to serving as a Research Fellow at Sagamore, Burkey was a research assistant on various international-development projects. She has researched immigration issues, higher education, international development, civil society, international service organizations, public and private provisions of foreign aid, and grassroots initiatives for peace and conflict resolution. Burkey is the co-author of the Sagamore Policy Paper "Local-to-Local Solutions for Global Problems." Burkey received a B.A. in International Affairs from Sweet Briar College, with a concentration in Asian Studies, and is working towards an M.A. in International Relations at the University of Indianapolis.

**Justin Heet** (justinheet@comcast.net) specializes in the analysis of demographic and workforce trends. In addition to these two areas, his experience is highly multi-disciplinary, due to his interests in research methodologies and the effect of technological change on the workplace and government. Earlier, Heet served as a research fellow at Hudson Institute, where he contributed to Hudson's *Workforce 2020* project, education research, e-government studies, and *Beyond Workforce 2020: Global Work and Workers in the 21st Century*. In addition to his experience at Hudson and Sagamore, Mr. Heet has been Senior Principal at Thomas P. Miller and Associates and Senior Associate at Workforce Associates. Heet graduated from Indiana University in Economics and Political Science.