

Changing U.S. Age, Racial, and Ethnic Demographics and Its Impact on Higher Education

Dr. Mitchell L. Springer PMP, SPHR, SHRM-SCP, Purdue University-Main Campus, West Lafayette

Dr. Mitchell L. Springer PMP, SPHR, SHRM-SCP

Dr. Springer currently serves as an Executive Director for Purdue University's Polytechnic Institute located in West Lafayette, Indiana. He has over thirty-five years of theoretical and defense industry-based practical experience from four disciplines: software engineering, systems engineering, program management and human resources. Dr. Springer possesses a significant strength in pattern recognition, analyzing and improving organizational systems. He is internationally recognized and has contributed to scholarship more than 300 books, articles, presentations, editorials and reviews on software development methodologies, management, organizational change, and program management. Dr. Springer sits on many university and community boards and advisory committees. He is the recipient of numerous awards and recognitions, including local, regional and national recognitions for leadership in diversity, equity and inclusion; as well as, recognition for exceptional teaching and support of military connected students.

Dr. Springer is the President of the Indiana Council for Continuing Education as well as the Past-Chair of the Continuing Professional Development Division of the American Society for Engineering Education.

Dr. Springer received his Bachelor of Science in Computer Science from Purdue University, his MBA and Doctorate in Adult and Community Education with a Cognate in Executive Development from Ball State University. He is certified as a Project Management Professional (PMP), Senior Professional in Human Resources (SPHR & SHRM-SCP), in Alternate Dispute Resolution (ADR), and, in civil and domestic mediation. Dr. Springer is a State of Indiana Registered domestic mediator.

Dr. Kathyne Newton, Purdue Polytechnic Institute

Dr. Kathy Newton is an Associate Dean of Graduate Programs and Faculty Success for the Purdue Polytechnic Institute at Purdue University. She is a Professor of Supply Chain Management Technology in the School of Engineering Technology. Her teaching and scholarly interests are in the areas of supply chain management, quality control, and graduate education. She served as Department Head of Industrial Technology from 2007 to 2010. Prior to her appointment at Purdue University in 1993, she spent seven years teaching for Texas A&M University's Department of Engineering Technology. Dr. Newton has a Ph.D. in Educational Human Resource Development, a Master's degree in Business Administration, and a B.S. in Industrial Distribution, each from Texas A&M University.

Changing U.S. Age, Racial and Ethnic Demographics and its Impact on Higher Education

Abstract

The United States of America is undergoing, and will continue to undergo, a demographic transformation the likes of which have never been experienced in this great Nation. The demographic changes which surfaced in the literature and became more pronounced around 2008, are now at the precipice of tectonic change, and its impact on higher education is already being felt.

Three major events will take place over the upcoming decade. Each of which, by itself, may appear harmless and go relatively unnoticed. Together these three transformative changes paint a forever changing face of the demographics of the U.S. The impact of these three primary drivers of demographic change are already being felt in the hallowed halls of higher education. Colleges and universities are scrambling to accommodate these, still to be fully understood, major impacts.

The first of these three major changes is the “graying” of America. The last of the Baby Boomers, born between 1946 and 1964, will turn 65+ years of age in 2030. This is particularly significant because of the financial impacts on social services and safety nets currently enacted into law in support of a generally aging population.

The second of the three major changes is the marked cross-over (2035) where the number of people 65+ years of age outnumber the youths under the age of 18. The manifestation of this cross-over resides in the number of working age individuals for every aged dependency. When youth dependency, those aged under the age of 18, is added to the older-aged dependency, the net effect is a total dependency where there are two dependents for every three working age adults. This cross-over as well represents what has been termed the new minority majority of America; where the non-Hispanic White population becomes the minority overall population for the first time in U.S. history.

The third, and final, of the three major demographic changes is the recognition that the primary driver for population growth in the U.S. will be from international migration. Not because of an increase in international migration, but because of an aging natural population and a declining birth rate of same.

The new demographic of the United States has had a negative impact on enrollments in higher education. New minority populations are not equally prepared, financially or otherwise, to participate in higher education as the current non-Hispanic White majority population. To this end, 25 years of researched literature materializes into multiple changes currently being implemented by institutions of higher education to accommodate this new minority majority population.

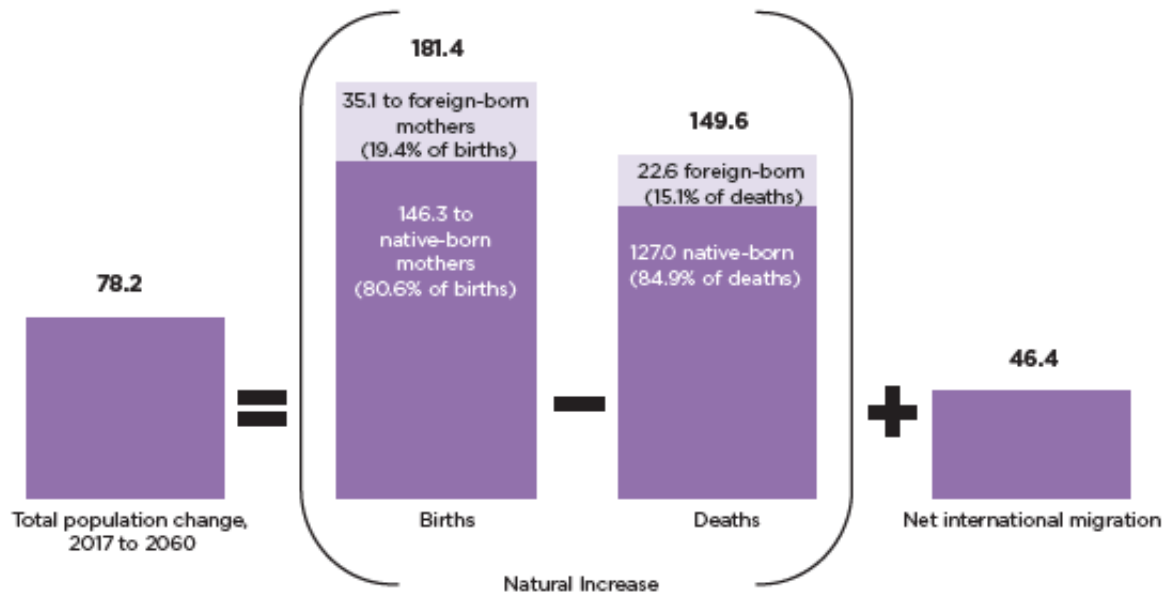
This paper extracts from the literature the most recent current demographic changes, the impact of these changes on the enrollments in higher education, the response of colleges and universities to these rapidly changing American demographic realities, and, the heightened awareness of these changes and their implications on continuing professional development administrative organizations.

Changing U.S. Demographics

The U.S. population, on the whole, is expected to grow more slowly, age considerably and become significantly more racially and ethnically diverse.

It is expected the U.S. population will reach roughly 400 million people in the year 2058 [1, p. 2]. At this writing, according to the U.S. Census Bureau's World Population Clock, the U.S. population is 329 million; with one birth every eight seconds, one death every twelve seconds, one international migrant every twenty-eight seconds, for a net gain of one person every twelve seconds. The U.S. population is increasing, at a decreasing rate. Through the year 2030, the population grew at a rate of 2.3 million people per year. However, going forward from 2030, the population is expected to grow at a much slower rate of 1.5 million people per year from 2040 to 2060. The decrease in the rate of growth is predominantly due to an ageing Boomer population and declining fertility rates of the U.S. majority non-Hispanic White female population.

The figure below [1, p. 9] depicts the calculation of population between 2017 and 2060. It takes into account the births by demographic cohorts, native-born mothers versus foreign-born mothers living in the U.S. Accounting for births by individual native-born, foreign-born, racial and ethnic cohorts is critical given the differences in fertility rates between these populations. Deaths is figured the same way as births; again, accounting for differences between native-born, foreign-born, racial and ethnic cohorts. Net immigration, discussed later, becomes an increasingly greater percentage of the population; not because of an increase in immigration, but because of an ageing majority non-Hispanic White population coupled with a declining birth rate of same.

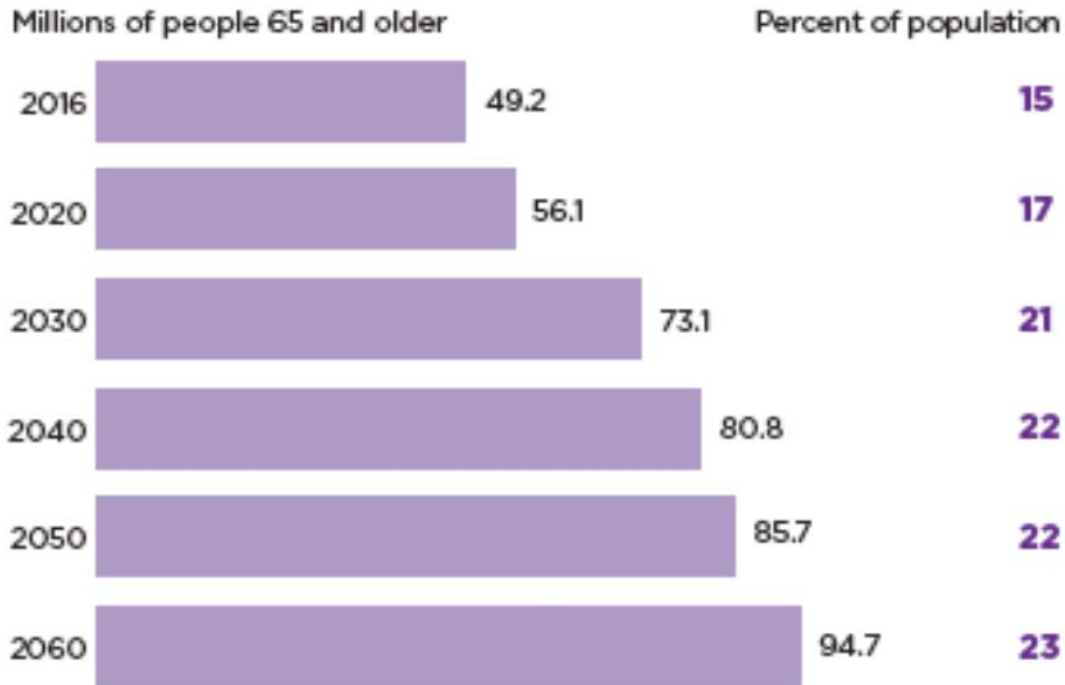


Source: U.S. Census Bureau, 2017 National Population Projections.

Figure 1 – Population Change 2017 – 2060

The Baby Boomers were born between 1946 and 1964. The last of the youngest Boomers, those born in 1964, will turn 65 years of age in the year 2029; marking 2030 as the first year all boomers will be at least 65 years old. This single fact has enormous implications, sociologically, economically and without any doubt demographically. This change is coming and is inevitable.

Figure 2 below [1, p.1] depicts the changing age demographic of those 65 years of age and older by calendar year. As can be seen the U.S. has a generally ageing population with greater percentages of total population being 65 years of age and older as time progresses. By 2020, 17% of the total U.S. population will be 65 years of age and older, by 2030, 21% of the U.S. population will be 65 years of age and older, and by 2060, nearly one quarter of the entire U.S. population will be over the age of 65.



Source: U.S. Census Bureau, 2017 National Population Projections.

Figure 2 – Percentage of Population 65 Years of Age and Older

In the U.S., the working age population is considered to be between the ages of 18 and 64. Those below the age of 18 are calculated as the youth population, while those age 65 and above are considered the senior, or aged, non-working population. In the ideal scenario, the backfill of an aged population is the youth population. This younger population becomes the working age population of a society and ensures the continuation of social programs such as social security, Medicare and other like programs for the aged population. As can be seen from the below figure [2, p. 3] the year 2035 marks the first time in U.S. history the older (65+) population is expected to outnumber the youth (under 18) population. Figure 4 below depicts the actual expected number of individuals in each of these age categories. From figure 4, it can be seen in the year 2030, the under 18 population is at 18.4 million, while the 65 and above population is at 73.1 million. By 2040, however, the under age 18 population is at 76.8 million, while the over 65 age population is at 80.8 million. The actual cross-over in population projections occurs in 2035.

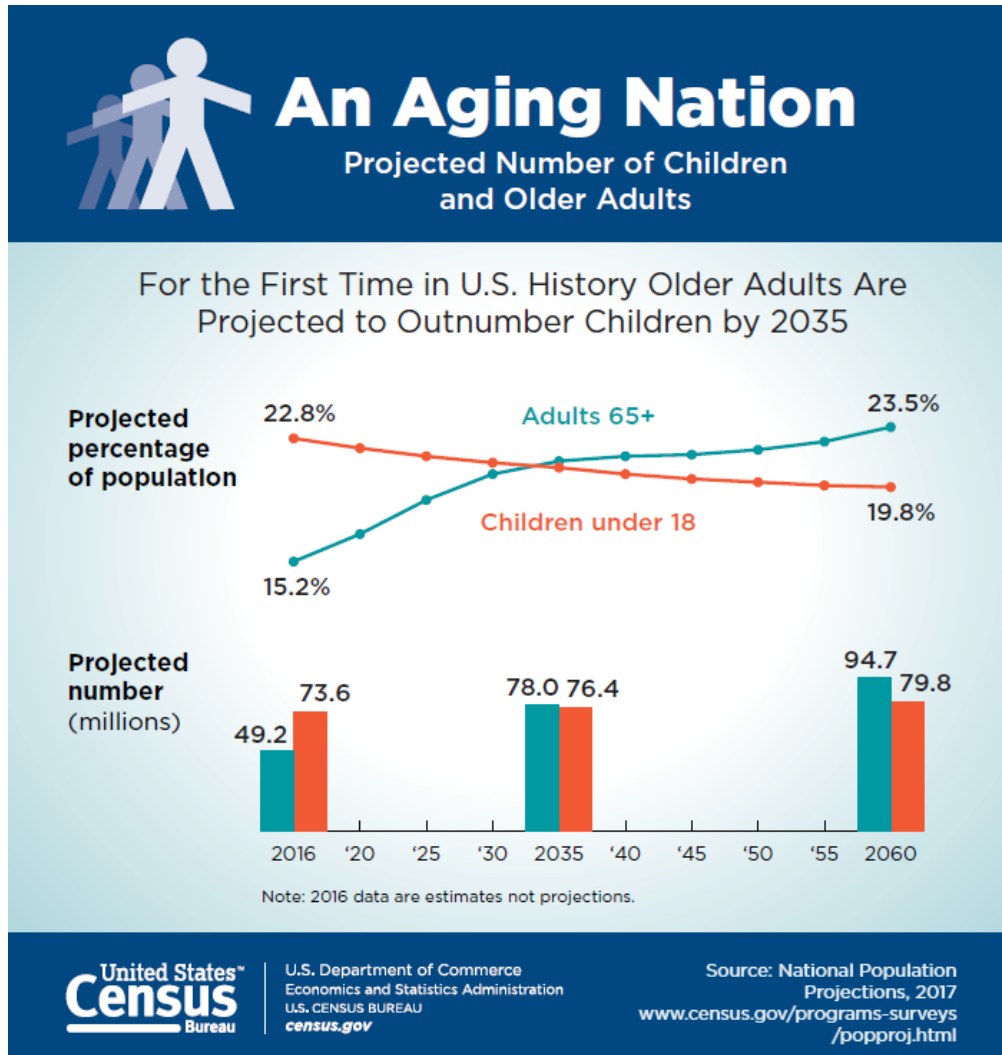


Figure 3 – Cross-Over of Dependent Populations

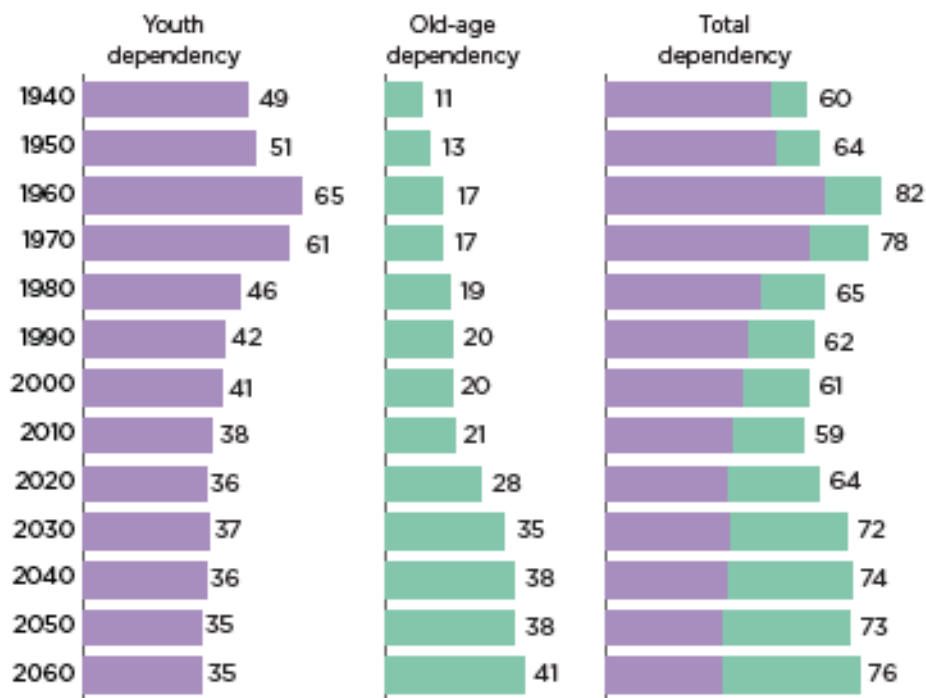
Characteristic	Population						Change from 2016 to 2060	
	2016	2020	2030	2040	2050	2060	Number	Percent
Total population	323.1	332.6	354.8	373.1	388.3	403.7	80.6	24.9
Under 18 years	73.6	73.9	75.4	76.8	77.9	79.8	6.2	8.4
18 to 44 years	116.0	119.2	125.0	126.3	129.3	132.3	16.3	14.1
45 to 64 years	84.3	83.4	81.3	89.1	95.4	97.0	12.8	15.1
65 years and over	49.2	56.1	73.1	80.8	85.7	94.7	45.5	92.3
85 years and over	6.4	6.7	9.1	14.4	18.6	19.0	12.6	197.8
100 years and over	0.1	0.1	0.1	0.2	0.4	0.6	0.5	618.3

Note: The official population estimates for the United States are shown for 2016; the projections use the vintage 2016 population estimate for July 1, 2016, as the base population for projecting from 2017 to 2060.

Source: U.S. Census Bureau, 2017 National Population Projections.

Figure 4 – Population by Age: Projections 2020 to 2060

The shift from a youth-dependent population to an elderly-dependent population has significant implications as discussed above. The combined youth and old-age dependency, however, is even more revealing. Figure 5 below [1, p. 6] reflects this combined dependency on the working age population. From the below figure, two lines in particular are worth noting. In the year 2020, the total dependency ratio, as a measure of the burden on the working age population, is 64. Meaning, in the year 2020, there will be two dependents for every three working age adults. The combined dependency ratio, with the elderly population taking a higher percentage of the total dependency ratio, increases steadily through 2060, the last of the current estimated years. This dependency is, again, a reflection of a slower growing population, a declining fertility rate and a generally aging population.



Note: Dependency ratios are a measure of potential burden on the working-age population.
 Youth dependency ratio = (population under 18 / population aged 18 to 64) * 100.
 Old age dependency ratio = (population aged 65 and older / population aged 18 to 64) * 100.
 Source: U.S. Census Bureau, 2017 National Population Projections, 1940-2012 Population Estimates.

Figure 5 – Youth and Old-Age Dependency Ratios

Impacting this discussion are adjustments attributed to postponing retirement for those social security age eligible. Current economic, political and social events have caused some of those eligible for “full” retirement, as defined by the U.S. Social Security Administration, to postpone retirement until a later age. While there is significant previously reported data on this topic [18,

pgs. 236-238], the true impact at this writing is uncertain. And, for purposes of this paper, will simply be mentioned to heighten awareness and raise consciousness.

Growing Racial and Ethnic Diversities

The population in general is ageing and growing more slowly. This is especially true for non-Hispanic Whites. The fastest growing populations are two or more races (+197%), Asian (+101%) and Hispanics (+93%). Figure 6 [1, p. 7] depicts the percent change from 2016 to 2060. The non-Hispanic White population is, again, the only population expected to decline, reflecting a drop of over 19 million people for a percent change rate of -9.6%. This decline in population reflects the general aging of the population, coupled with the declining fertility rates of this cohort.

While the non-Hispanic White population remains the single largest cohort group, by 2045 they will no longer be the majority of the population of the U.S.

Characteristics	Population						Change from 2016 to 2060	
	2016		2030		2060		Number	Percent
	Number	Percent	Number	Percent	Number	Percent		
Total population	323,128	100.0	354,840	100.0	403,697	100.0	80,569	24.9
One race								
White	248,503	76.9	263,302	74.2	274,576	68.0	26,073	10.5
Non-Hispanic White	197,970	61.3	197,888	55.8	178,884	44.3	-19,086	-9.6
Black or African American	43,001	13.3	48,934	13.8	60,471	15.0	17,470	40.6
American Indian and Alaska Native	4,055	1.3	4,657	1.3	5,567	1.4	1,512	37.3
Asian	18,319	5.7	24,382	6.9	36,778	9.1	18,459	100.8
Native Hawaiian and Other Pacific Islander	771	0.2	912	0.3	1,124	0.3	353	45.8
Two or More Races	8,480	2.6	12,652	3.6	25,181	6.2	16,701	196.9
Hispanic	57,470	17.8	74,751	21.1	111,022	27.5	53,552	93.2

Figure 6 – Population by Race and Ethnicity

Youth Minority Majority Change in 2020

The youth of the U.S. are the bench strength of any country’s population. They backfill the aging population and are the primary cohort to sustaining age related social programs, the strength of the working class and a country’s capacity to innovate. It is, therefore, imperative this population is sufficiently educated and capable of sustaining an on-going enterprise, or in this case, a country.

By the year 2020, less than one half of the children under 18 years of age will be non-Hispanic White. Meaning, a majority of the youth population will be what has been historically known as a minority population; this cross-over has been coined as either the new minority majority, or alternatively, the new majority minority (when referring to the non-Hispanic White population).

Figure 7 below [1, p. 8] depicts this changing demographic. In the year 2020, the non-Hispanic White population will represent 49.8 percent of the total youth cohort. The combined minority populations will exceed the non-Hispanic White population for the first time in U.S. history. From

figure 7, by 2060, roughly two in three youth will be non-Hispanic White. This trend is not expected to reverse as significantly greater growth of the combined minority populations outpaces that of the non-Hispanic White cohort.

Characteristic	2016	2020	2030	2060
Total children under 18 (in thousands)	73,642	73,882	75,391	79,788
One race				
White	72.5	71.7	69.4	62.9
Non-Hispanic White	51.1	49.8	46.9	36.5
Black or African American	15.1	15.2	15.5	16.0
American Indian and Alaska Native	1.6	1.6	1.5	1.4
Asian	5.2	5.5	6.3	8.1
Native Hawaiian and Pacific Islander	0.3	0.3	0.3	0.3
Two or More Races	5.3	5.8	7.1	11.3
Hispanic	24.9	25.5	26.5	32.0

Note: The official population estimates for the United States are shown for 2016; the projections use the vintage 2016 population estimate for July 1, 2016, as the base population for projecting from 2017 to 2060. Percentages will not add to 100 because Hispanics may be any race.

Source: U.S. Census Bureau, 2017 National Population Projections.

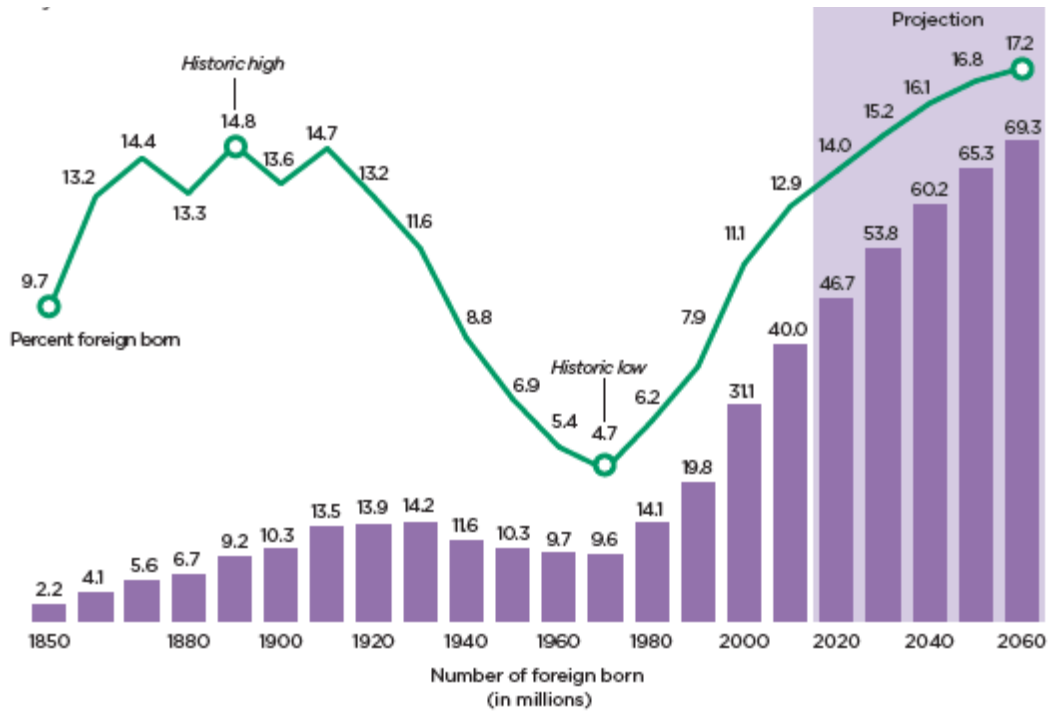
By 2020, fewer than half of the children will be non-Hispanic White

Figure 7 – The 2020 Cross-Over of the New Minority Majority

International Migration

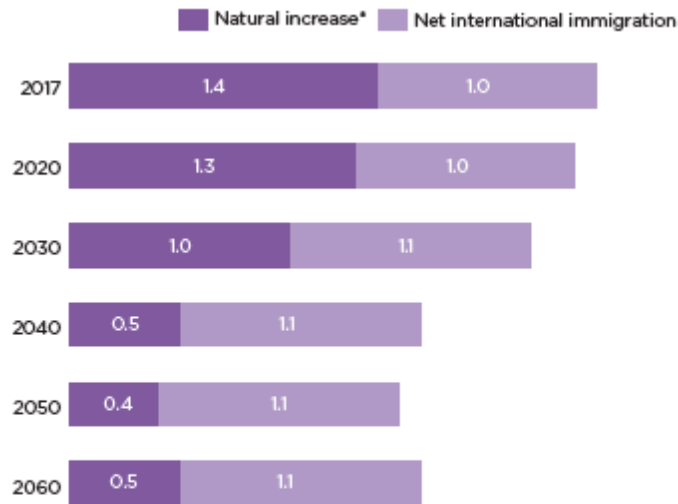
By 2028, the share of the U.S. population that is considered foreign-born is projected to be higher than any time since 1850. Figure 8 [1, p. 9] depicts 15.2% of the entire U.S. population as being foreign-born, exceeding the previous high of 14.8%; the actual cross-over occurs in 2028. The overall share of the U.S. population that is foreign-born is expected to continue to increase; not because of a growing international migration, but because of a shrinking overall natural-born aging population.

As depicted in figure 9 [1, p. 11], by 2030, net international migration will be the single largest driver of U.S. population growth. In 2030, the net natural-born increase to the population that being the increase due to natural born U.S. citizens, will be roughly 1 million, while at the same time, in 2030, the net international immigration increase in population will be roughly 1.1 million. Through 2060, net international migration population increase will remain stable at 1.1 million, while the natural-born net population increase will continue to decline. This overall population increase reflects an increasing population at a decreasing rate of growth.



Source: U.S. Census Bureau, 1950-2000 Decennial Censuses, American Community Survey 2010, 2017 National Population Projections for 2020-2060.

Figure 8 – Foreign-Born as a Percent of Total U.S. Population



* Natural increase is the number of people born into the population after subtracting the number of people who have died (i.e., births minus deaths).

Source: U.S. Census Bureau, 2017 National Population Projections.

Figure 9 – Total U.S. Increase by Natural, versus International Populations

College Enrollment Impact [4]

In the Distance Education Learning Report, Allen and Seaman [3] report higher education enrollments, overall, for academic years spanning 2012-2015, are down across public and private for-profit institutions, while enrollments are slightly higher in private non-profit institutions. Figure 10 below depicts this relationship.

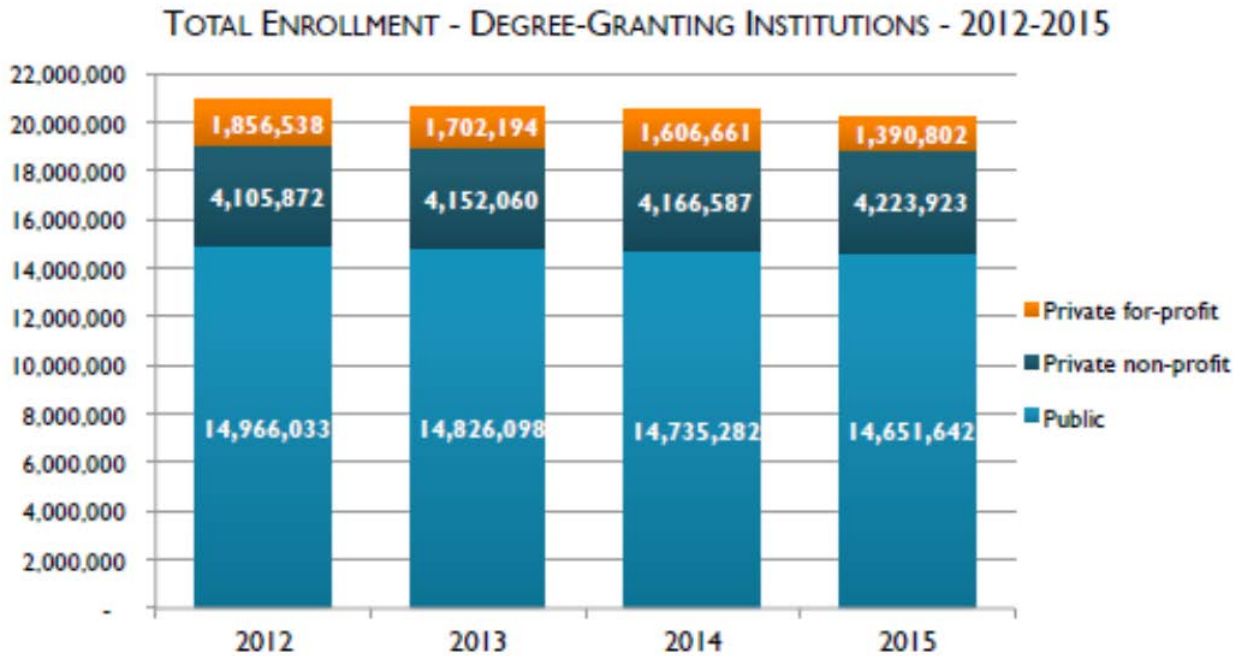
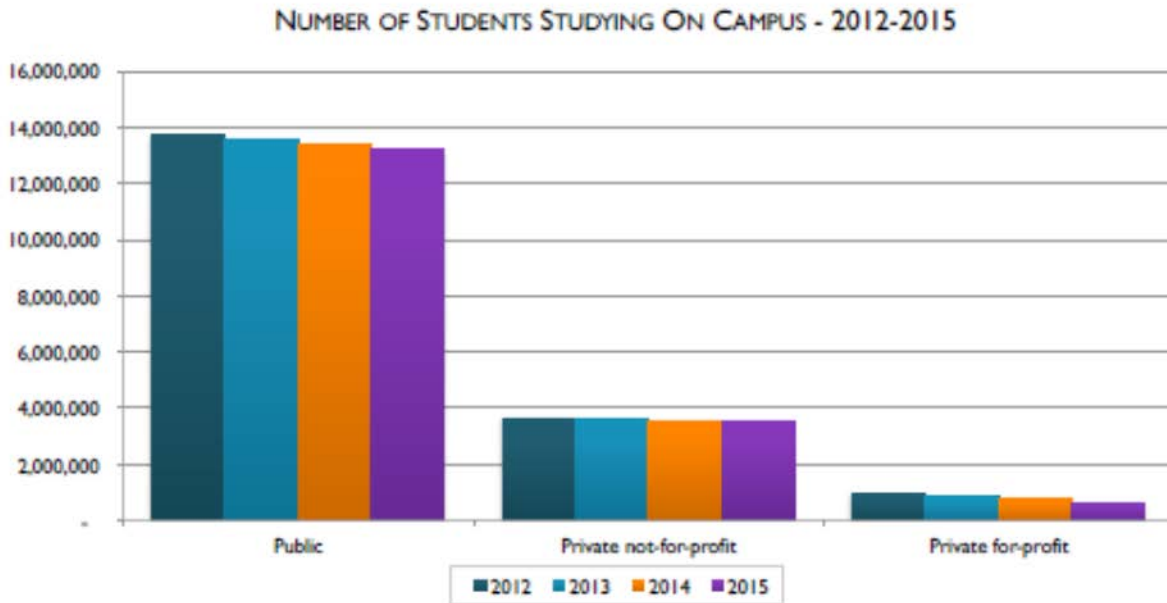


Figure 10 – Enrollments by Type of Institution

The Allen and Seaman data reflects nearly a one million student decrease of -931,317 in students studying on campus.

Figure 11 [3] below depicts both the percent change from 2012 – 2015 as well as the equivalent student population. Worth noting is that public universities maintain the predominance of total student enrollments, both as a headcount and as a percentage.



Change in Number of On Campus Students – 2012 to 2015		
<i>Control of institution</i>	<i>Change 2012 to 2015</i>	<i>Percent Change 2012 to 2015</i>
Public	(539,271)	-3.93%
Private non-profit	(100,863)	-2.78%
Private for-profit	(291,183)	-31.36%
Total	(931,317)	-5.09%

Figure 11 – Number and Percent of Student Decline from 2012-2015

Looking at the data presented by the authors, one would be naturally compelled to ask “where did nearly one million students go?”

From figure 12 [3], the students did not migrate to those institutions with a negative percent change from 2012-2015; namely, they did not go to private non-profit 4-year or above, private for-profit 4-year or above, public 2-year, or, private for-profit 2-year. It appears the sole significant increase in enrollment institution type was to private non-profit 2-year institutions.

On reflection, if total loses do not add up to equal total gains, then where did the students go? Further research suggests there are simply not as many students; but why? The simple answer can generally be stated as an aging overall demographic population and declining fertility rates [4].

On Campus Students – 2012 to 2015		
<i>Sector of institution</i>	<i>Change 2012 to 2015</i>	<i>Percent Change 2012 to 2015</i>
Public, 4-year or above	101,445	1.3%
Private non-profit, 4-year or above	(113,063)	-3.1%
Private for-profit, 4-year or above	(181,680)	-31.4%
Public, 2-year	(640,716)	-10.4%
Private non-profit, 2-year	12,200	32.2%
Private for-profit, 2-year	(109,503)	-31.4%
Total	(931,317)	-5.1%

Figure 12 – Allocation by College/University Type of Missing Students

Demographic Deeper Dive

While it can be stated there is a slower growing and generally aging overall population, not every population demographic graduates high school or enters college at the same cohort rate. To be more specific one must look at each location throughout the United States, the demographic make-up of that location and the probability of members of each cohort going to college. This deeper analysis provides a formula for more accurate predictions of college attendance.

The demand for college [5, pgs. 24-25], therefore, may be calculated as follows:

Demand for College (lt) =

- Probability of attendance (lt)
- Number of children (lt)

Where (l) = location, (t) = birth cohorts by year of expected H.S. graduation

College participation may also be viewed as an overlap between birthrate and social-economic factors; in other words, not every demographic cohort goes to college in equal numbers. For example, high-income children participate in some college at a rate of 73%, while low-income children participate in some college at a rate of 30%.

When overlapping birth-rates with racial/ethnic factors, the data suggests the following [5, pgs. 24, 118].

- ❑ Asian Americans participate in some college at a rate of 84%

- ❑ Non-Hispanic Whites participate in some college at a rate of 75%
- ❑ Non-Hispanic Blacks participate in some college at a rate of 60%
- ❑ Hispanics participate in some college at a rate of 60%

When overlapping birthrates with the level of education of a child's parents, the data suggests children whose parents have a degree at the bachelor's level or more are more likely to attend some college than those children whose parents have not completed their H.S. education.

- ❑ Childs participation in some college, when parent(s) have a bachelor's degree or more is 87%.
- ❑ Childs participation in some college, when parent(s) did not complete High School is 47%.

The Winds of Change

The winds of change are blowing the sands of time through the pages of history; as the saying goes. We are standing at the precipice of seismic shifts in national and international higher education and public institutions of higher education in particular. The U.S. economy is stuck in neutral since the last recession [8, p.1], tuition prices are skyrocketing, student loan debt has surpassed \$1.5 trillion [15, p. 1], parents – who have leveraged their homes through equity loans and second mortgages – are losing faith in the value of education, state funding is dwindling, federal grants are shrinking, and donor dollars are smaller. These are the times in which we live. Change is inevitable. We can continue to do what we do until such time as we can't. Then we must do something else. This is the prevalence of the literature today; something has to give, something other than addressing the low hanging fruit of administrative cuts. The changes have to be institutional and must involve physical infrastructure.

There is a growing trend toward college and university mergers. Marcus states "...it's a kind of private sector-style consolidation that is becoming increasingly common, not only for public institutions, but also for nonprofit, independent ones that can pool their resources and cut their costs in a time of falling budgets and demand for efficiencies in higher education..." Marcus goes on to state "...there have been few mergers of colleges and universities in the past... but the pace of such consolidations is picking up..." What is happening is a very natural next phase in the business life-cycle; costs are rising, the number of new freshman entering into college is flat, and colleges and universities are experiencing the financial implications of reduced revenue and increased costs [9, p. 2].

In the end, we cannot afford to protect something that does not have an economic right to exist. Market forces will prevail as they always do; free money through taxpayer's indebtedness and rising tuition does not last forever.

Moody's, in the "January Industry Outlook" report of 2013, was negative about the financial prospects of higher education. They highlighted the consolidation trend as one of the "bolder

actions by university leaders” that can “foster operating efficiencies and reduce overhead costs amid declining state support” by centralizing such services as marketing, fundraising, purchasing, and information technology.

In the report “The Next Generation University” [10, p. 2], the nonpartisan, New America Foundation, stated that higher education must adopt business practices to improve efficiency. The authors of the report state “...in the business world, the prevailing philosophy has long been that efficiencies and savings can be achieved by getting bigger and building economies of scale...which is why companies grow or merge with competitors...”

“It’s not an easy thing politically,” said Richard Novak, Senior Vice President for Programs and Research at the Association of Governing Boards of Universities and Colleges, “...you certainly have academic departments that have on the surface the most to lose, and will be the most vocal critics. And faculty, who have tenure and job security, are the most likely to be outspoken about it [9, p. 2].” Marcus goes on to state, “Everybody is realizing that we’re not going back to the way things used to be... change is coming – and you can either get on board or be left by the side of the road [9, p. 3].”

States have been increasingly rolling back their financial support for higher education, leaving their public universities, which already educate eight-in-ten Americans, scrambling for cash at a time when students are trying to get in. This leads to the finger pointing of inefficiencies. That pointing finger is almost always aimed the oft-quoted “bloated administration” and “overbuilding” across any given campus. Remedies to increasing efficiency and reducing costs suggest [10, p. xiii]:

- ❑ Limiting the number of majors and tying those remaining to the needs of the local economy
- ❑ Offering classes year round
- ❑ Offering distance hybrid courses

Other suggestions are generally aligned to standard business practices of:

- ❑ Simplifying organizational structures by decreasing layers of management
- ❑ Increasing the number of direct reports for any given supervisor
- ❑ Eliminating redundancies in service organizations such as information technology (IT), human resources (HR), finance, or marketing through centralization, and consolidating purchasing [11, p. 1]:

David Wessel in *The Wall Street Journal* [12, p. 1] sited four ideas to fix higher education:

- ❑ Use a stick – “...the federal government could link an institution’s student aid to its track record, essentially punishing schools whose graduates do poorly in the job market...”
- ❑ [The] President could offer extra money to those colleges wishing to “...test new approaches shortening a path to degree...”

- ❑ Transparency – “...the administration argues that the higher-ed market would work better if students knew more about the careers and wages of graduates of programs they’re considering and families knew more about the likely return on their big investment.”
- ❑ Lowering barriers to entry – old rules “including an archaic system of deciding what’s a college for purposes of federal aid and what isn’t, may be preventing innovation...”

There is no shortage of ideas on how to fix the growing concerns of higher education. Looking back over twenty five years of literature reveals tens upon tens of potential solutions. While these are specific recommendations for colleges and universities to follow most are really nothing more than basic practices in any business/industry looking to increase efficiencies and reduce costs.

One of the more exhaustive studies of what action should be taken to grow revenue and increase cost efficiency comes from Moody’s Investor Service, “Industry Outlook”, January 16, 2013 [8]. Moody’s negative outlook for higher education culminates in the following:

...in the coming years, all universities will need to fund growing financial aid budgets, increasing healthcare costs, and capital improvement necessary to maintain or build market position. There is also a growing risk that public universities will be forced to assume payment responsibility for post-employment benefits that their respective states have historically paid. In order to do so, administrations will have to focus on traditional cost containment and operating efficiency, as well as take on the bigger issue of tenure and the student service intensive residential experience [8, p. 16].”

Their recommendations for change include:

- ❑ Centralization and shared services: human resources, fundraising, marketing, financial services, and information technology.
- ❑ Consolidation: within public systems; shared leadership and mergers.
- ❑ Expense flexibility: increase use of adjuncts; reduced percent of tenured faculty; leasing space for satellites/expansion.
- ❑ New market outreach: continuing education and degree completion; non-traditional students.
- ❑ Online education: distance learning programs; hybrid classes; fully online degrees; MOOCs for credit.
- ❑ Partnerships/collaborations: purchasing cooperatives; dual enrollment; joint BA/MA degree programs.
- ❑ Programmatic review: elimination of small, underutilized programs.
- ❑ Space utilization: weekend, evening, summer courses; moving administrative functions off core campuses to administrative spaces.
- ❑ Tuition pricing strategies: recalibration of the number of credits covered by the standard full-time tuition with per-credit charges for additional coursework [8, pgs. 16-17].

The greatest long term changes are not the low-hanging fruit, but the structural changes that have lasting impact. Changes that are structural in nature, and the most readily available to create efficiencies and reduce costs are seldom mentioned, and if mentioned seldom acted upon. These changes include: centralization of our many decentralized colleges and elimination of programs which fail the return on investment calculation.

On January 18, 2013, President Daniels's "Open Letter to the People of Purdue" makes explicit reference to higher education as we know it being poised for big change. He goes into great detail highlighting concerns for higher education according to many literary works.

These include:

- ❑ College costs too much
- ❑ Administrative costs have run up the cost to students without enhancing the value of education
- ❑ Rigor has weakened
- ❑ The system lacks accountability
- ❑ Too many professors are spending too much time writing papers for each other with no real contribution to understanding or human knowledge
- ❑ The unique system of tenure promotes "the narrowest form of closed-mindedness and the worst repression of dissident ideas"
- ❑ Athletics is out of control as a priority of university attention

President Daniels goes on to say, "...the operating model employed by Purdue and most American universities is antiquated and soon to be displaced..." In response to these many concerns and criticisms, President Daniels offers suggestions for collective thought and action. To name a few:

- ❑ Excellence – Purdue is not its buildings, or even its wonderful past or traditions "...this would be a great university if it met in a tent." Purdue is its faculty and students and what happens when brought together effectively.
- ❑ Affordability – "...every university community should embrace the shared responsibility to reexamine current practices and expenditures with a determination to keep its tuition and fees within the reach of every qualified student..."
- ❑ Shared governance – "...shared governance implies shared accountability. It is neither equitable nor workable to demand shared governing power but declare that cost control and substandard performance in any part of Purdue is someone else's problem. We cannot improve low on-time completion rates and maximize student success if no one is willing to modify his schedule, workload, or method of teaching..."
- ❑ Common purpose – "...the widespread duplication of identical functions can work against the common goal we must have of affordability and liberating resources for new investments in faculty and facilities... many choices will necessitate a communitarian outlook that consciously places the interests of the overall university first..."

Time and again, President Daniels's "Open Letter to the People of Purdue" makes reference to being good stewards, creating efficiencies, becoming more effective, reexamining current practices and expenditures, and addressing the duplication of support function services. These and many other references are indicative of areas for improvement and alignment to our current mission. President Daniels's strong background in business affords him great understanding of the steps necessary for economic success.

The National Academies of Science produced a report titled "Research Universities and the Future of America: Ten Breakthrough Actions Vital to Nation's Prosperity and Security" [13]. In this report, Recommendation #4 focused entirely on increasing productivity and reducing inefficiencies, stating "...the nation's research universities should set and achieve bold goals in cost containment, efficiency and productivity in business operations and academic programs..." Changes relative to increasing efficiency and reducing costs are directly impacted by the level of cooperation and collaboration of the administration and tenured faculty.

And, Carlson [14], penning a report titled Sustaining the College Business Model for The Chronicle of Higher Education states:

"...The 20th Century was good to higher education as institutions and enrollments grew. But pressures have mounted in recent decades. Rising labor costs, falling public funding, suppressed tuition revenue, and demographic changes are straining the college business model. And the sector isn't known for finding efficiencies. Both buoyed and burdened by years of tradition, acres of infrastructure, and scores of personnel, many colleges and universities are struggling financially [14, p. 4]"

Carlson goes on to recommend numerous potential changes required to sustain current college and university economic models, naming a few:

- ❑ Growing tuition revenue
- ❑ Collaborating and consolidating
- ❑ Streamlining operations
- ❑ Reinventing yourself

Implications for Continuing Professional Development

The implications on continuing professional development organizations serving the needs of professional working adult learners are quite similar to those of the wider university or college. Namely:

- ❑ The new student population is changing.
- ❑ The economics of the new student population have a greater impact on their ability to participate in continuing education beyond a Bachelor's degree.

- ❑ The current supply-demand equation does not necessarily support ever increasing debt accrued as a result of post-Bachelorette educational attainment.

The new student population is changing -

Above describes the changing face of the new student population. In 2020, it was reported there are more minority children (under the age of 18) than non-Hispanic White children. With this new minority majority comes a series of generational firsts; one of which will be continuing education post-bachelorette.

From above, when overlapping birth-rates with racial/ethnic factors, the data suggests the following.

- ❑ Asian Americans participate in some college at a rate of 84%
- ❑ Non-Hispanic Whites participate in some college at a rate of 75%
- ❑ Non-Hispanic Blacks participate in some college at a rate of 60%
- ❑ Hispanics participate in some college at a rate of 60%

When overlapping birthrates with the level of education of a child's parents, the data suggests children whose parents have a degree at the bachelor's level or more are more likely to attend some college than those children whose parents have not completed their H.S. education.

- ❑ Childs participation in some college, when parent(s) have a bachelor's degree or more is 87%.
- ❑ Childs participation in some college, when parent(s) did not complete High School is 47%.

The new minority majority suggests both of these factors, college participation rate by race/ethnicity and parental education play an important role in educational accrual and attendant financial indebtedness.

The economics of the new student population –

The economics of the new professional student has been reported on extensively [16]. The referenced paper suggests:

“...On the whole, we have a slowly recovering economy, difficult job market, high student debt, graduates moving back home after graduation, delays in marriage, having children and the purchasing of material possessions [16, pg 18].

The findings of the authors aligns to both the above referenced implications of the new changing face of U.S. demographics, as well as, the final point of this section on the current supply and demand of an educated populace and its implications relative to available working opportunities.

The current supply-demand equation –

Scott and Nightengale [17], in a published report titled “The Education-Jobs “Mix-Match”: How Much Opportunity is there for the College-Educated Workforce in America’s Metropolitan Areas?” discusses at great length the implications of having a highly educated national populace.

The authors report on the increasingly greater percentage of the American population that has continued to obtain higher levels of educational attainment. The data suggests:

- ❑ 1940 – 5% of the U.S. population had a Bachelor’s degree
- ❑ 2016 – 31% of the U.S. population had a Bachelor’s degree
 - 2016 – 29% more had some college but not a formal Bachelor’s degree
- ❑ 2018 – 33% of the U.S. population had a Bachelor’s degree

The authors go on to highlight those with higher levels of education experience less unemployment, earn higher wages, but, require a wage premium for their knowledge and skills, which is sometimes hard to get.

The author’s final point is that the unemployed, or more readily stated “underemployed” has risen over the last few years.

In looking at the supply and demand of higher education, the data suggests more than half of the total jobs in the United States (63%) require a High School degree or less. This, while over 60% of the population, ages 25 and above, have more than a High School degree.

- ❑ 63% of jobs require a H.S. degree or less
- ❑ 60% of people 25 and over have more than a H.S. degree
- ❑ Of adults with “some college”
 - < 1/3 have an Associates degree, certification or not completed any terminal diploma

Figure 13 below reflects the share of jobs requiring college versus the percent of the total U.S. population with this level of education. Worth noting is that:

- ❑ 24% of the total jobs in the U.S. require less than a High School degree, while only 13% of the population satisfy this educational requirement.
- ❑ 39% of the total jobs in the U.S. require a High School or equivalent education, while only 27% of the population satisfy this educational requirement.
- ❑ 11% of the total jobs in the U.S. require “some college”, while a full 29% of the population have this minimal level of education.

- ❑ 26% of the total jobs in the U.S. require a four-year degree or more, while 31% of the population have this minimal level of education (2016).

From this data, there are more highly educated individuals than jobs requiring this level of education at entry, and for those jobs requiring High School or less than High School, there are more jobs than individuals who satisfy this entry level of education. This directly implies there are jobs that, if filled, would be filled with over qualified individuals.

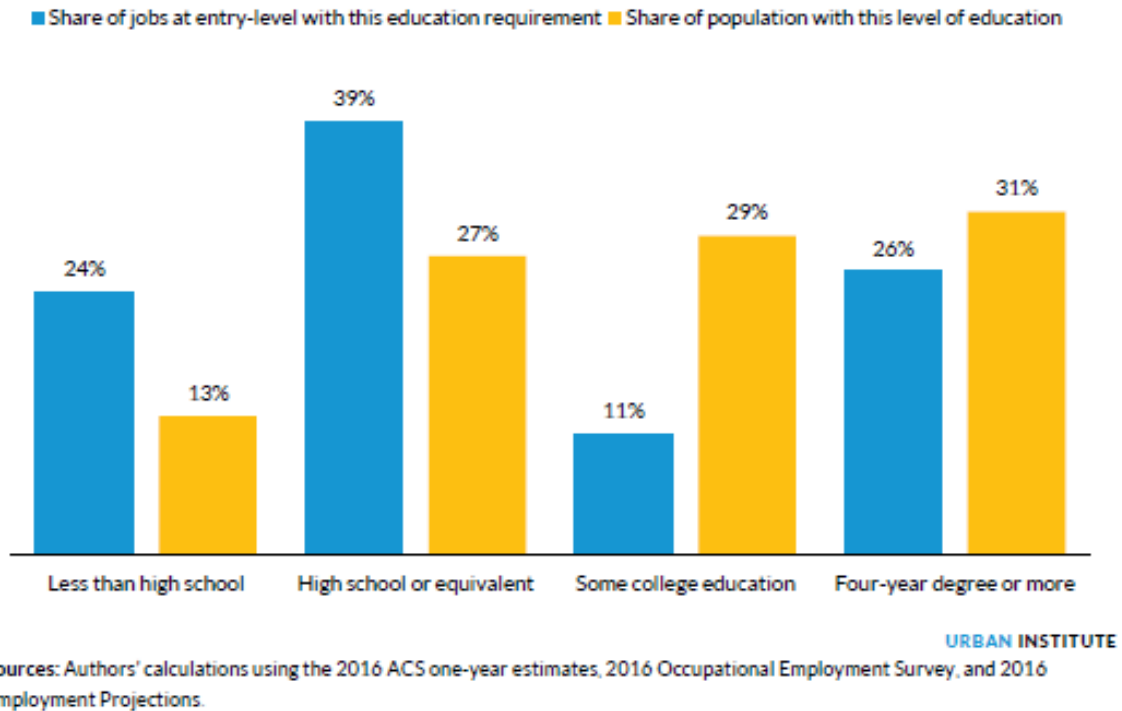


Figure 13 – Share of Jobs Requiring College

The authors go on to point out:

“...If people with postsecondary degrees cannot find jobs where they can use their education, it is reasonable to assume they would need to look for other jobs that require less education instead, potentially displacing people with less education who could have held those jobs. As the share of people with postsecondary education increases, people may also need to continuously upgrade their skills or education, not necessarily to keep up with new duties required for a particular job, but to compete with other workers in the labor market...[pg. 11]”

Additionally, only 24% of the employers in the U.S. had a problem hiring individuals due to a lack of degrees or credentials. The continuing thought suggests the oversupply has led to a substantial “up-credentialing”, which is supported when viewing the data for the last 15 years. Job up-

credentialing means the job has not changed, but now has a higher educational minimum credential than was previously required.

- Only 24% of employers had problem hiring due to a lack of degrees or credentials
- Most important skills
 - Problem solving
 - Interpersonal
 - Communication
 - Teamwork
 - Leadership skills
 - None of which require postsecondary education
- Over supply → substantial “up-credentialing” over last 15 years; jobs require higher education without the job changing

All of this directly implies there is a potential for diminishing returns on postsecondary education.

Meaning:

- Countries with low percentages of formal postsecondary education yield increasing income growth and decreasing inequality as the populace becomes more educated
- Countries with widespread college education yields slowing growth and increasing inequality

Conclusion

In reviewing the literature, it can readily be seen the demographics of the United States are changing. As a Nation, the United States has an(a):

- Aging population
- Slower growing population
- Declining fertility rate
- Smaller youth population than the aging older population
- Changing racial and ethnic majorities
- Increasing dependence on international immigrants

As the population changes in demographic structure, the new minority populations will become the majority populations. These newer minority majority populations have historically projected

entry into college at a lesser rate than the non-Hispanic White population; this due to numerous economic, parental, admissions and other related and previously reported obstacles.

The impact of this new minority majority is now being felt through declining enrollments in our colleges and universities, and has heightened our awareness to the challenges of the professional working adult learner and the continuing professional development administrative organizations serving their needs. To this end, this paper identified the predominantly proposed solutions currently being discussed in the literature and enacted throughout the many post-secondary institutions of higher education in the United States.

The proposed changes to higher education are no longer being reacted to in anticipation of upcoming seismic shifts, but instead in recognition of current realities.

Left for another paper are the cultural implications of this tectonic demographic change. William Frey [7, pgs. 1-2] in *Diversity Explosion: How New Radical Demographics are Remaking America* expresses:

“...America reached an important milestone in 2011. That occurred when, for the first time in the history of the country, more minority babies than white babies were born in a year. Soon, most children will be racial minorities: Hispanics, blacks, Asians, and other nonwhite races. And, in about three decades, whites will constitute a minority of all Americans... Certainly in the past, the specter of a “minority white” nation instilled fear among some Americans, and to some extent it continues to do so today – fear of change, fear of losing privileged status, or fear of unwanted groups in their communities...”

References

- [1] Vespa, J., Armstrong, D., and Medina, L. (2018). *Demographic Turning Points for the United States: Population Projections for 2020 to 2060*. Current population Reports, P25-1144, U.S. Census Bureau, Washington, DC.
- [2] U.S. Census Bureau (2018). *Older People Projected to Outnumber Children for First Time in U.S. History*. United States Census Bureau, March 13, 2018. Release Number CB18-41.
- [3] Allen, I., Seaman, J (2017). *Digital Learning Compass: Distance Education Enrollment Report 2017*. Babson Survey Research Group.
- [4] Springer, M. L., & Schuver, M. T. (2018). Dwindling Graduate Student Enrollments in Distance-Based Programs: A Research-Based Exploration with Findings and Underlying Premise. *ASEE 2018 Annual Conference Proceedings*. Salt Lake City, UT.
- [5] Grawe, N, (2018). *Demographics and the Demand for Higher Education*. Baltimore, MD., Johns Hopkins University Press.
- [6] Bransberger, P., Michealu, D. (2016). *Knocking at the College Door – Projections of High School Graduates*. Western Interstate Commission for Higher Education, Updated July 2017.
- [7] Frey, W. (2018). *Diversity Explosion: How New Racial Demographics Are Remaking America*. Washington, D.C., The Brookings Institution.

- [8] Moody's *US Higher Education Outlook Negative in 2013*. Industry Outlook, January 16, 2013. Downloaded from <http://www.marquette.edu/budget/documents/USHigherEducationOutlookNegativein2013.pdf> (2013).
- [9] Marcus, J. *Like Private Businesses, Universities Consolidate to Cut Costs*. The Hechinger Report. Downloaded from <http://nation.time.com/2013/07/19/cash-strapped-universities-turn-to-corporate-style-consolidation/?xid=newsletter-daily>. (2013).
- [10] Selingo, J., Carey, K., Pennington, H., Fishman, R. & Palmer, I. *The Next Generation University*. New America Foundation, May 2013. Downloaded from the internet on July 19, 2013. http://higheredwatch.newamerica.net/blogposts/2013/the_next_generation_university-84378 (2013).
- [11] Kiley, K. Where Universities Can Be Cut. *Inside Higher Education Online*. Downloaded from http://www.insidehighered.com/news/2011/09/16/unc_berkeley_cornell_experience_show_where_administrative_cuts_can_be_made (2011).
- [12] Wessel, D. *Four Ideas to Fix Higher Education*. The Wall Street Journal Online. Downloaded from <http://online.wsj.com/article/SB10001424127887323971204578626123435046376.html> (2013).
- [13] National Academy of Sciences. *Research Universities and the Future of America: Ten Breakthrough Actions Vital to our Nation's Prosperity and Security*. Washington, D.C.: National Academies Press (2012).
- [14] Carlson, S. (2018). *Sustaining the College Business Model*. The Chronicle of Higher Education.
- [15] Student Loan Hero. (2018). A Look at the Shocking Student Loan Debt Statistics for 2018. Student Loan Hero. Downloaded from <https://studentloanhero.com/student-loan-debt-statistics/>.
- [16] Springer, M. L., & Schuver, M. T. (2015). The New Professional Working Adult Learner – The Next Generational Cohort. *ASEE 2015 Annual Conference Proceedings*. Seattle, WA.
- [17] Scott, M. & Nightingale, D. (2018). The Education-Jobs “Mix-Match”: How Much Opportunity is There for the College-Educated Workforce in America’s Metropolitan Areas? Urban Institute. Washington, D.C.
- [18] Springer, M. L. (2019). *Project and Program Management: A Competency-Based Approach. 4th ed.* West Lafayette, IN: Purdue University Press.