Economic Pulse

Inclusive Growth Workforce Gaps

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TAKEAWAYS: We identify local economic gaps under the inclusive growth approach: (1) Gender gaps – Despite relatively high educational attainment, women are less likely than men to enter the workforce. Hispanic mothers with young children have the least labor force participation rate. (2) Demographic gaps – With a double-digit unemployment rate, the youngest working age group of 16 to 24 years makes up about one-third of the unemployed locally. Economic hardship falls disproportionately more on less educated Hispanics. (3) Wage gaps – Occupational segregation of Hispanics and women in construction and healthcare is correlated with their overall relatively lower wage earnings. (4) Technology gaps – The local Hispanic workforce is particularly susceptible to automation in the future. (5) Talent gaps – The area seems to be losing its competitive edge in attracting high-skill professionals, while employees are not well informed about their on-the-job training opportunities.

In this newsletter, we identify some workforce gaps in Corpus Christi that shape how the community moves ahead in the long run. The community will likely grow at a more robust pace than otherwise if officials and policymakers can leverage growth opportunities that accompany these economic gaps. All statistics presented in this article pertain to the city of Corpus Christi and Nueces County.

Corpus Christi has been designated as part of the Inclusive Development Network financially supported by ECMC Foundation and JP Morgan Chase. The other cities of this network in 2019 are Cleveland, Ohio; Spokane, Washington; Coweta, Oklahoma; and Pensacola, Florida. The objective of this program is to identify and implement inclusive approach to workforce development that promotes long-term economic development.

Inclusive growth is economic growth that potentially benefits all corners of society with economic opportunities for everyone. The inclusive growth approach aims at implementing programs that can also leverage the workforce and talents of traditionally disadvantaged population groups. While the concept of inclusive growth is not well defined, it contrasts other similar concepts, such as

equity, which tends to focus on removing gender- and race-based barriers; and economic mobility, which pays attention to increasing women- and minority-owned startups. Despite different strategies, the first step of all these approaches is to identify existing economic gaps.

Gender Gaps

In Corpus Christi, women comprise slightly more than half (50.9%) of the population but 46% of the local work-

Female vs. Male Workforce

Sources: U.S. Census, 2012-16 American Community Survey; and STEDC.
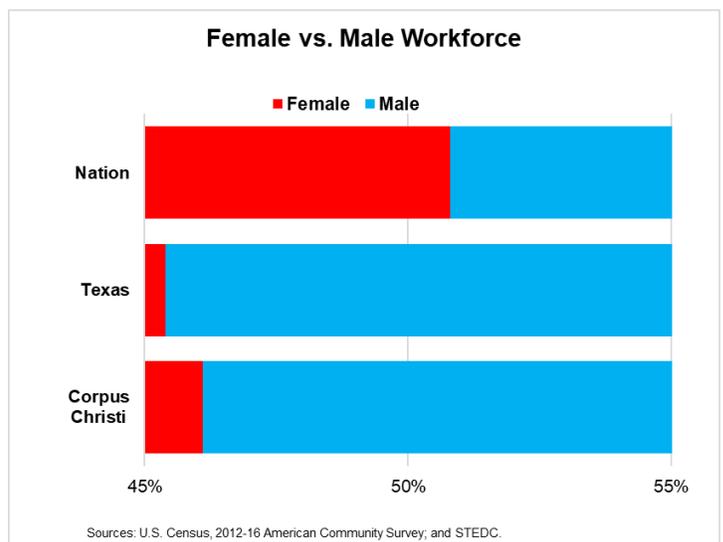
force. Although the share of female workforce is still slightly higher than the Texas average of 45%, it is considerably below the national average of 51%, which matches the women's share of the national population. The gap between the relative sizes of women population and workforce in Corpus Christi implies a lower women labor force participation relative to male.

A relatively lower labor force participation rate among women in Corpus Christi is responsible to their higher poverty rate at 19% relative to their male counterparts (16%) as well as the national (16%) and statewide (18%) averages. Education perhaps play a role in this gender gap in the workforce. Under-representation of women in the local labor force is associated with their overall relatively higher high school dropout rate (7%) and thus the percentage of people without a high school diploma (14%) in comparison with the rest of the nation.

However, educational attainment is not the root cause of the observed relatively low labor force participation among women. In fact, 60 percent of women in Corpus Christi hold a post-secondary degree, higher than not only than their male counterparts (51%) but also their educational attainment level nationally (41%).

Family is a likely contributor for the gender gap in labor force participation. A report from the Department of Labor and another report by the Brookings Institute indicate that women are less likely than men to enter the workforce if they are married. The labor force participation rate for married women with children is about 10 percentage points below that for married women without children. Among all demographic groups, Hispanic women are least likely to join the workforce. The labor force participation rate of Hispanic mothers with the youngest child below 3 years is 51%, as compared to 62% for their white counterparts.

So despite their overall higher educational attainment levels, disproportionately fewer women in Corpus Christi are found in the workplace. This also coincides with the rising trend of women-owned businesses, most of which are self-employed with no employees. As described in an earlier Economic Pulse newsletter, the share of local women-owned businesses rose from 27% in 1987 to nearly 40% today. As one of the most business friendly cities according to Wallethub, Corpus Christi appears to offer an attractive climate for woman entrepreneurs.

Demographic Gaps

The consensus is that Corpus Christi is now transitioning into an unprecedented rapid growth trend in the shadow of a tight labor market. Following the national and statewide trends, Corpus Christi's unemployment rate has dipped to historically low levels. Yet employment opportunities in this tight labor market are not equally shared by job seekers of all ages or races.

Residents between 16 and 24 years old make up 15% of the local workforce, but 37% of the unemployed. While the overall unemployment rate was 4.7% in 2018, the unemployment rate for this age group was more than double at 11%. Most teenagers in this age group also most likely had not completed post-secondary training or education that could make them more employable.

The burden of economic hardship also falls disproportionately more on some minority groups. The unemployment rate was more than one percentage point higher than the area average at 5.8% for local Blacks or African Americans, and 5.2% for local Hispanics. The performance of these two demographic groups contrasts that of whites (3.7%) and Asians (0.9%).

Like women in Corpus Christi, local Hispanics' poverty and high school dropout rates at 20% and 30%, respectively, are twice as high as their white counterparts. But unlike women, Hispanic's relatively more hardship is attributable to educational attainment.

Post-secondary education makes one more employable. While nearly one in three (31%) whites in Corpus Christi have a college degree, this share is the smallest at 12% for Hispanics. The neglectable unemployment rate (0.9%) for local Asians is also associated with their highest percentage of college degree holders (71%).

Wage Gaps

As described in a recent newsletter, healthcare is the largest private sector in Corpus Christi, accounting for nearly one in five (17%) jobs in Corpus Christi. Growth in healthcare jobs has indeed created ample employment opportunity to women, who make up 80% of the workforce in this sector.

The employment size (10%) of the construction is relatively smaller than healthcare, but the 19,000 jobs in this sector is nearly twice (1.8) as many as the number in a typical U.S. community of the same size of Corpus Christi. In contrast to healthcare, women are under-represented in the construction sector. Only 11% of the construction workforce is female.

The average annual wage earnings in the healthcare sector was about $51,000, more than 10% below the local average. This finding is counterintuitive as the industry also has the highest paid occupations of physicians and other health professionals. But the majority of employees, particularly females, are physician assistants and medical technicians that require no college degrees and pay relatively low wages.

Under-representation of women in the construction sector is more acute in Corpus Christi than the rest of the nation, according to Burning Glass. This adversely affects their average wages as the average income of construction jobs is currently $73,000 per year, or about 28% higher than a typical local job.

But the relatively high wage earnings of construction jobs do not seem to significantly level the playing field for Hispanics. Hispanics make up nearly 70% of the construction workforce, but most of them are unskilled laborers and helpers as opposed to engineers. Other than their high concentration in construction and healthcare, Hispanics are more likely to work in industries that pay relatively lower wages, such as retail and accommodation and food services that require few industry-specific skills.

Occupational segregation affects the wage earnings of different demographic groups. Hispanics in Corpus Christi are more concentrated in building maintenance, healthcare support and food preparation jobs that pay relatively less; relatively few of them are found in STEM and management occupations that pay relatively more wages. The correlation between wages and workforce concentration is also negative for women in Corpus Christi, but the variation across occupations is much higher than that for Hispanics. These wage disparities explain some of the observed economic disparities among demographic groups.

Technology Gaps

One area of concern about the future course of the labor market is impact of technology or automation. Advance in technology and the use of robots or artificial intelligence (AI) will enhance labor productivity on one hand, but on the other hand, automation will result in the reduction of some workforce needs.

As explained in a recent Economic Pulse newsletter, Hispanics in Corpus Christi are particularly vulnerable to structural shifts in the workplace associated with automation. This is because Hispanics tend to be segregated in occupations that are more subject to automation, such as construction and food preparation.

Contrary to Hispanics, women seem to fare better in the future of automation. The relationship between the potential of automation across different occupations and the shares of female workforce in Corpus Christi is negative. This means that women are more concentrated in occupations, such as social services and education, that are less susceptible to automation.

Talent Gaps

On way to gauge workforce demand is to look at the statistics of location quotient, which compares the local share of employment in a particular industry or occupation with the share of employment nationwide. A ratio higher than one means the area has more jobs locally relative to the rest of the nation. Among the broad occupation categories, jobs are disproportionately more concentrated in construction, oil and gas, and healthcare related jobs. On the contrary, relatively fewer local jobs are in the STEM and business management categories.

The location quotient statistics for the broad occupational or industrial categories, however, may not be informative about any hidden workforce gaps. To illustrate this, we take a closer look at healthcare, which is the fastest growing industry locally and nationwide. A recent Economic Pulse newsletter highlights shortages in some medical professionals, notably specialists. The ratio of location quotient is 2.97 for family and general practitioners in Corpus Christi, meaning that this type of doctors is nearly three times as many as the number in a comparable U.S. city.

On the contrary, at the bottom of the list of medical occupations ranked by location quotient are mostly specialists. The list shows that the numbers of surgeons, anesthesiologists and chiropractors are less than half of the amounts as they should be. A more striking finding is that the numbers of these types of physicians in fact declined between 2010 and 2017, despite a growing and aging population that has generated more medical needs over time. This means that Corpus Christi is facing a greater challenge of attracting high-skill professionals today than in the past, due perhaps to strong growth across the nation and Texas. Highly skilled workers are more geographically mobile than less skilled workers.

Brain drain, as opposed to inadequate workforce development, appears to play a role in the identified skill shortages. The numbers of postsecondary training program completions in the region increased 45% between 2010 and 2017. In response to growing healthcare needs, the total number of program completions in the healthcare industry more than doubled over that same period. Increases in program completions did not appear to effectively alleviate the shortages in some occupations due to out-migration of skilled workers. The identified skill gaps also tend to widen for occupations in which females and Hispanics are underrepresented.

Perception Matters

In addition to formal education, employees can acquire skills through on-the-job training. However, a recent survey of local community stakeholders by the Graduate Network indicates wide disparities between employers' and employees' perceptions about the support opportunities for career development. As employees in that survey cited financial reasons as the largest challenge for them to obtain additional skill training, their training decisions may benefit from more information about the financial support that their employers actually offer.

As for much of the nation and the state of Texas, Corpus Christi is approaching full employment. Yet its record low unemployment rate around 4.5% represents about 8,000 unemployed individuals that are willing and able to work. The burden of economic hardship is disproportionately felt by teens, Hispanics and women. A lack of educational attainment or skill training for gainful employment explains the economic gaps of local teens and Hispanics, but not the area's relatively well-educated women.

Identifying workforce and other economic gaps are the

necessary first step for designing inclusive growth strategies. As long as the identified workforce gaps are not closed, sub-par overall living standards in the area will continue to prevail as they did in the past.

Education Attainment by Gender

		Less Than High School	High School	Associate's Degree	Bachelor's Degree	Graduate Degree
Corpus Christi	Male	28%	30%	12%	20%	11%
	Female	23%	34%	8%	22%	13%
Texas	Male	16%	26%	30%	18%	9%
	Female	12%	23%	35%	21%	10%
U.S.	Male	16%	33%	34%	12%	6%
	Female	13%	27%	38%	14%	8%

Sources: U.S. Census, 2012-16 American Community Survey; and STEDC.
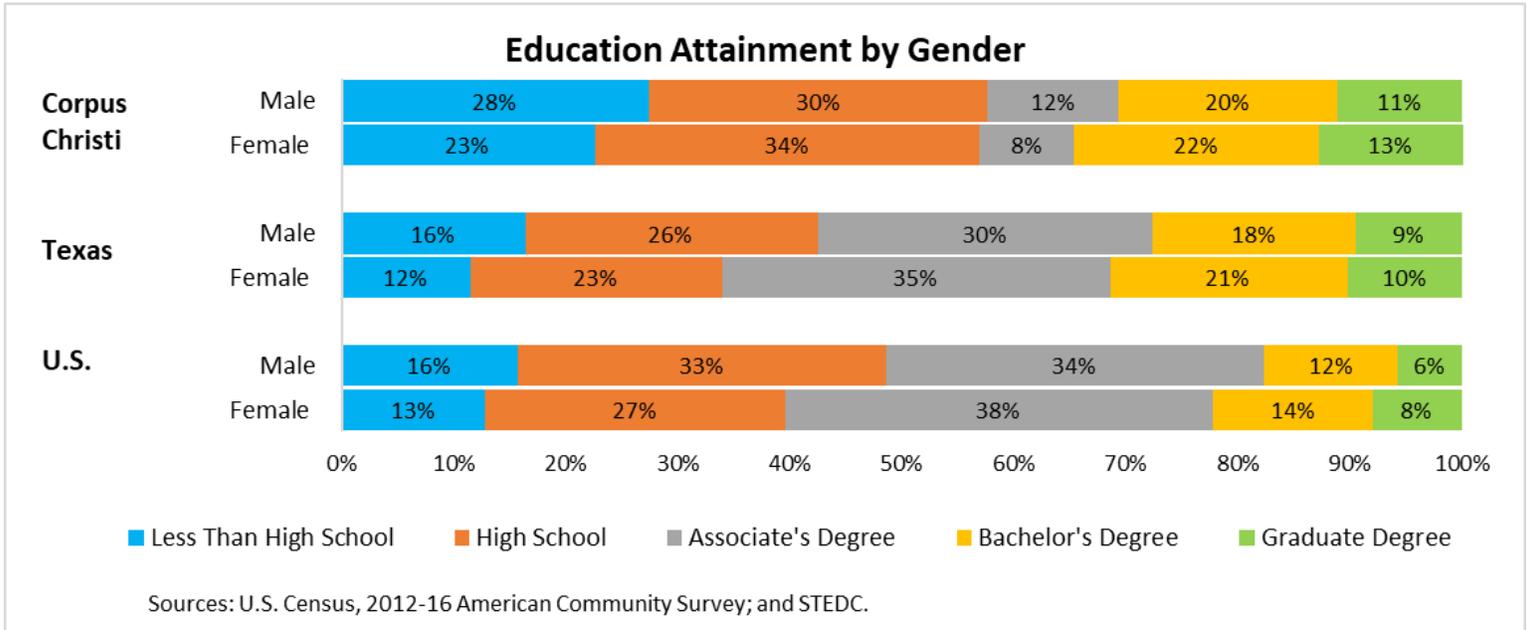
Corpus Christi Unemployment by Age Group, 2018

Age	16 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 and older
% of Workforce	15%	24%	20%	20%	16%	5%
% of Unemployed	37%	25%	15%	10%	11%	3%
Unemployment Rate	11%	5%	3%	2%	3%	3%

Sources: U.S. Census, 2012-16 American Community Survey; and STEDC.

Unemployment Rate by Race/Ethnicity

American Indian	Asian	African American	Hispanic	White
2.3%	0.9%	5.8%	5.2%	3.7%
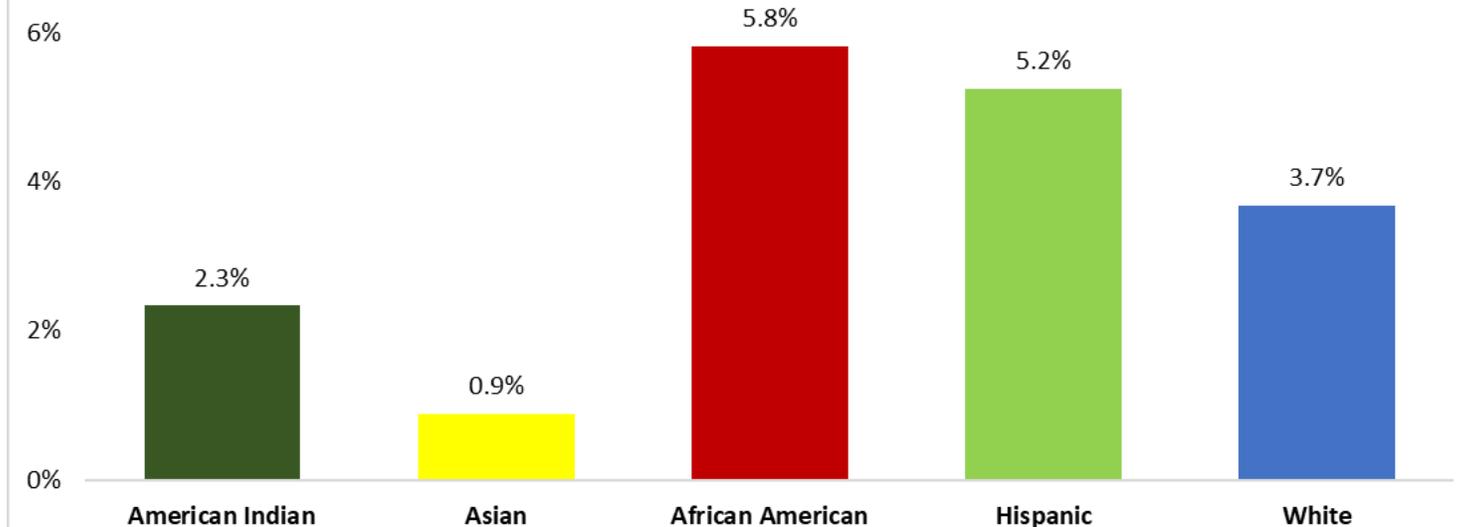
Sources: U.S. Census, 2012-16 American Community Survey, and STEDC.

Education Attainment by Race/Ethnicity

Race/Ethnicity	Less Than High School	High School	Associate's Degree	Bachelor's Degree	Graduate Degree
White	6%	26%	38%	20%	11%
Hispanic	20%	34%	35%	8%	4%
African American	11%	30%	41%	13%	7%
Asian	6%	7%	16%	27%	45%
American Indian	31%	13%	33%	20%	3%

Legend: Less Than High School, High School, Associate's Degree, Bachelor's Degree, Graduate Degree

Sources: U.S. Census, 2012-16 American Community Survey, and STEDC.

Females as Percentage of Industry Workforce

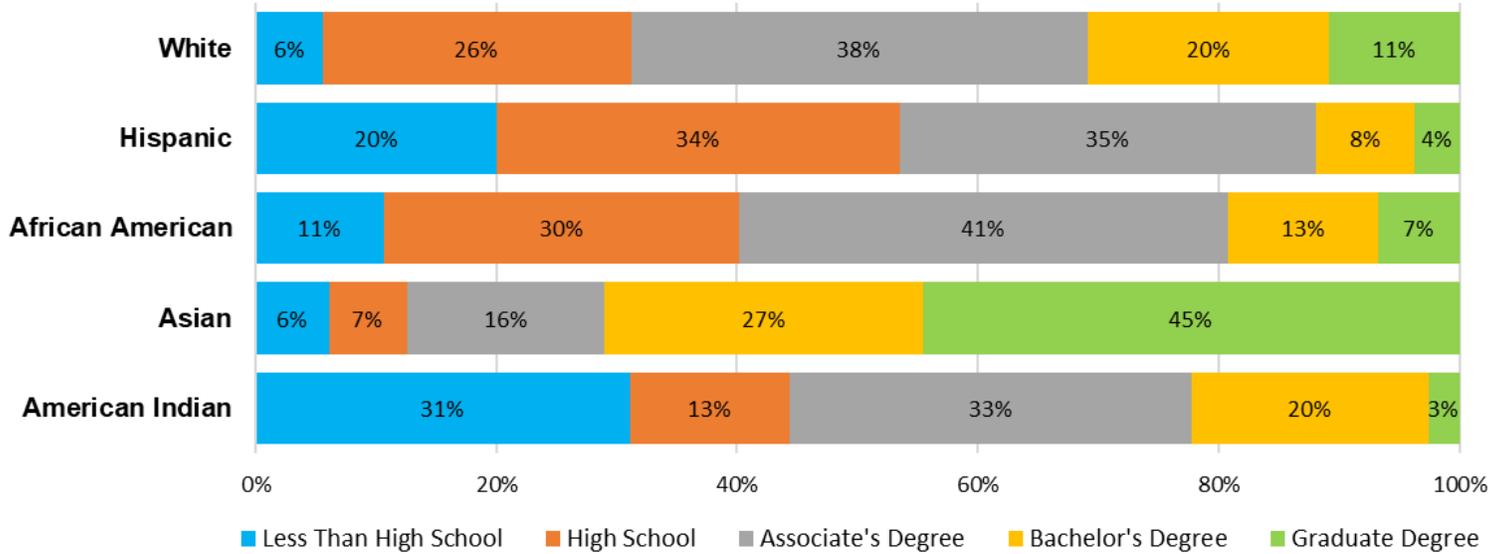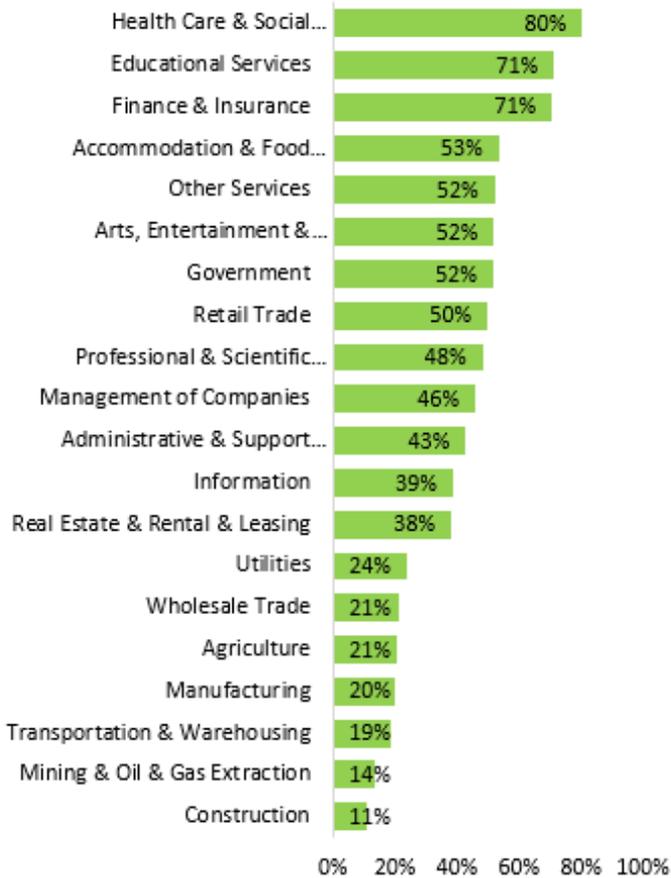| Industry	Percentage
Health Care & Social...	80%
Educational Services	71%
Finance & Insurance	71%
Accommodation & Food...	53%
Other Services	52%
Arts, Entertainment &...	52%
Government	52%
Retail Trade	50%
Professional & Scientific...	48%
Management of Companies	46%
Administrative & Support...	43%
Information	39%
Real Estate & Rental & Leasing	38%
Utilities	24%
Wholesale Trade	21%
Agriculture	21%
Manufacturing	20%
Transportation & Warehousing	19%
Mining & Oil & Gas Extraction	14%
Construction	11%

Source: EMSI, 2019.

Hispanics as Percentage of Industry Workforce

Industry	Percentage
Construction	69%
Health Care & Social...	64%
Retail Trade	63%
Accommodation & Food...	59%
Administrative & Support...	56%
Finance & Insurance	55%
Management of Companies	53%
Manufacturing	53%
Utilities	52%
Information	52%
Transportation &...	51%
Wholesale Trade	51%
Mining & Oil & Gas Extraction	49%
Other Services	45%
Arts, Entertainment &...	45%
Professional & Scientific...	44%
Real Estate & Rental &...	44%
Agriculture	41%
Educational Services	35%
Government	30%

Source: EMSI, 2019.

Wage Rate vs. Hispanics by Occupation
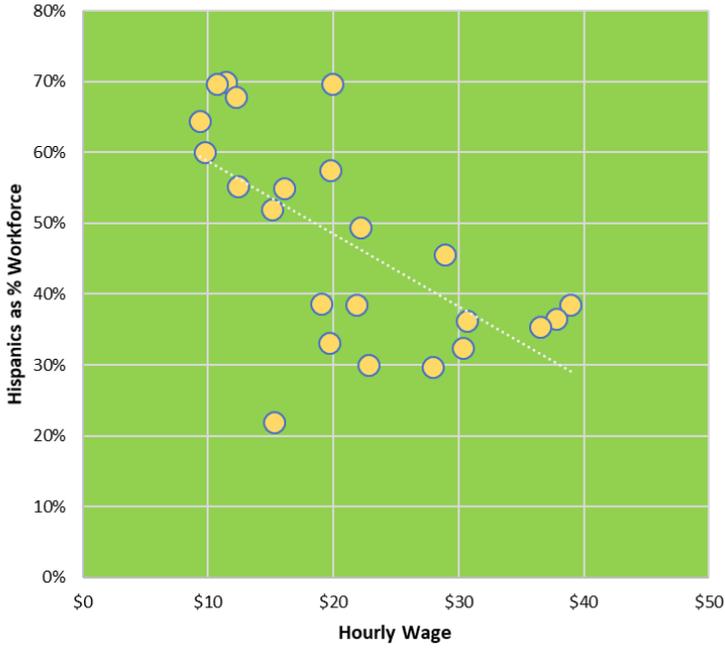
Wage Rate vs. Females by Occupation

Automation Index vs. Hispanics

Automation Index vs. Females

Sources: EMSI, 2019; and STEDC.
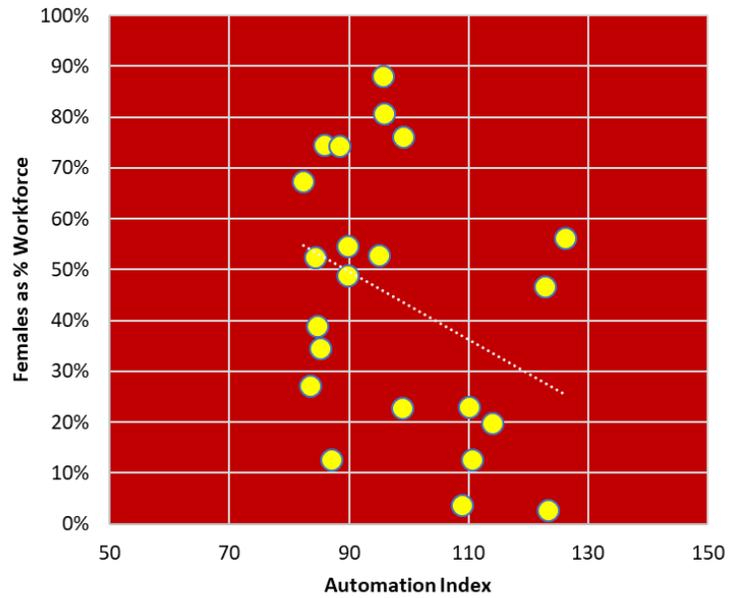
Location Quotient by Occupation, 2019

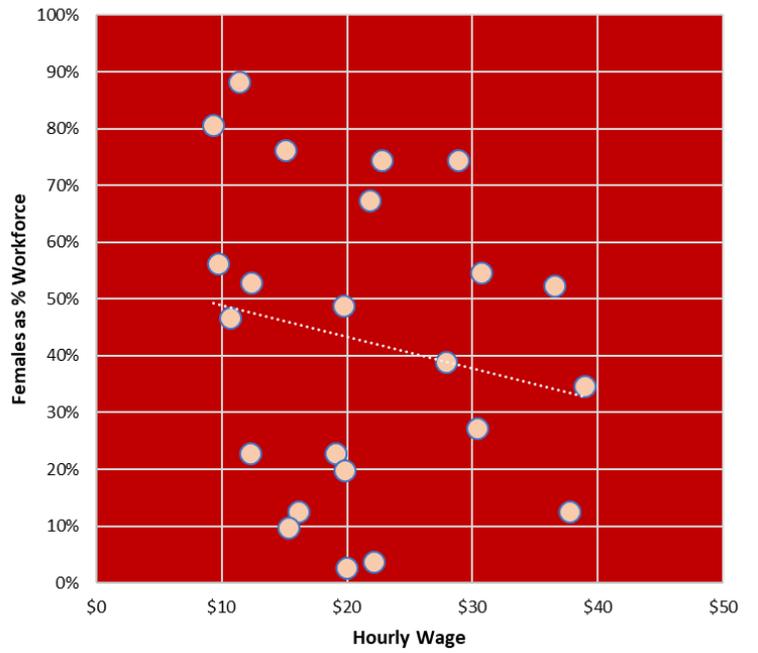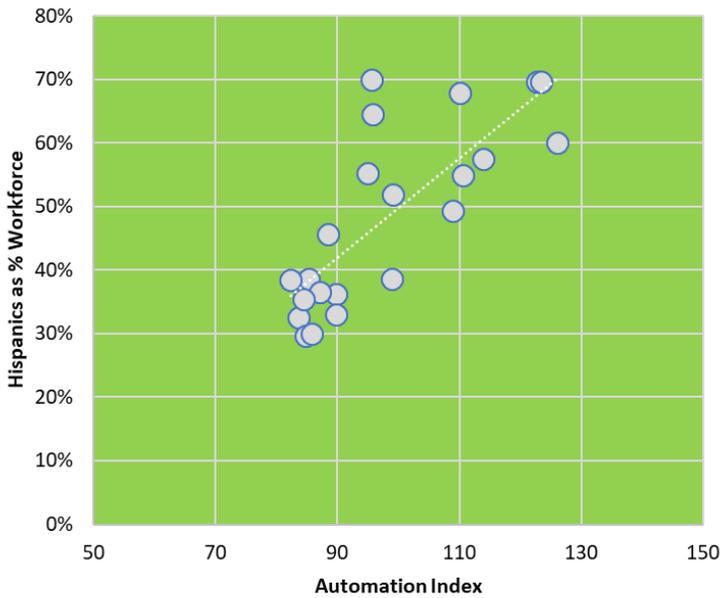| Occupation	Location Quotient
Construction & Extraction	2.00
Military	1.90
Installation, Maintenance, & Repair	1.35
Healthcare Support	1.20
Food Preparation & Serving Related	1.15
Personal Care & Service	1.13
Architecture & Engineering	1.08
Education, Training, & Library	1.00
Healthcare Practitioners & Technical	1.00
Protective Service	0.95
Building & Grounds Maintenance	0.93
Sales & Related	0.92
Office & Administrative Support	0.92
Life, Physical, & Social Science	0.90
Transportation & Material Moving	0.88
Community & Social Service	0.82
Production	0.80
Legal	0.78
Management	0.75
Business & Financial Operations	0.65
Arts, Entertainment, Sports, & Media	0.60
Farming, Fishing, & Forestry	0.58
Computer & Mathematical	0.38

Source: EMSI, 2019.

Perception of Education Support: Employers vs. Employers

■ Employer perspective   □ Employee perspective

	Employer perspective	Employee perspective
Financial support for college	46%	34%
Financial support for coursework outside college	51%	18%
On-the-job internal education, or training	80%	33%
Support in other ways besides financial support	60%	27%
None of the above	13%	7%
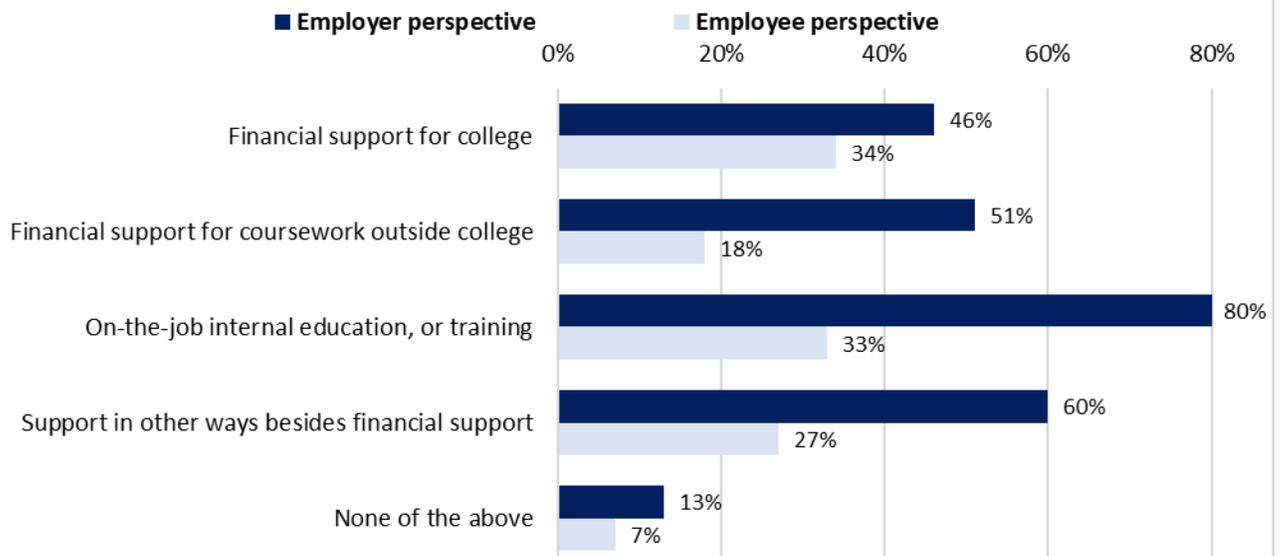
Source: Bridging the Talent Gap, Employee Community Report, Corpus Christi, 2019.

Local Healthcare Industry Occupations

Description	2010 Jobs	2019 Jobs	Location Quotient	Females %	Hispanic %	Regional Completions (2010)	Regional Completions (2017)
Ophthalmic Medical Technicians	97	273	3.79	79%	61%	0	0
Family & General Practitioners	409	488	2.97	32%	43%	47	70
Nurse Anesthetists	109	153	2.61	66%	33%	0	0
Occupational Health & Safety Specialists	169	291	2.37	35%	41%	39	159
Surgical Technologists	193	211	1.49	76%	60%	45	91
Nuclear Medicine Technologists	43	35	1.39	71%	51%	34	84
Radiologic Technologists	364	364	1.38	72%	51%	60	107
Licensed Practical Nurses	1,320	1,236	1.31	91%	59%	36	196
Dietitians & Nutritionists	108	120	1.30	91%	45%	29	79
Respiratory Therapists	182	202	1.21	64%	50%	42	95
Optometrists	53	68	1.15	35%	26%	29	79
Occupational Therapists	167	196	1.14	88%	36%	29	79
Clinical Laboratory Technicians	499	462	1.11	73%	46%	40	99
Physical Therapists	296	339	1.09	66%	39%	29	79
Registered Nurses	3,614	3,728	0.97	90%	41%	484	530
MR Imaging Technologists	36	45	0.89	73%	50%	31	28
Respiratory Therapy Technicians	19	11	0.87	Insf. Data	Insf. Data	42	95
Physicians & Surgeons, All Other	417	479	0.87	33%	37%	29	79
Pharmacy Technicians	464	434	0.86	75%	61%	101	110
Veterinary Technologists & Technicians	93	115	0.84	70%	41%	29	79
Emergency Technicians & Paramedics	279	285	0.84	43%	48%	39	110
Medical Records & Information Technicians	223	228	0.82	90%	58%	53	162
Pharmacists	341	297	0.79	51%	33%	30	79
Physician Assistants	86	113	0.72	67%	54%	29	79
Oral & Maxillofacial Surgeons	<10	<10	0.68	Insf. Data	Insf. Data	29	79
Recreational Therapists	22	18	0.67	78%	Insf. Data	29	79
Hearing Aid Specialists	<10	<10	0.67	Insf. Data	Insf. Data	0	0
Nurse Practitioners	96	164	0.66	91%	37%	47	70
Therapists	28	32	0.66	84%	35%	29	167
Veterinarians	60	66	0.63	33%	18%	29	79
Dentists, General	113	116	0.63	30%	38%	29	79
Dental Hygienists	164	168	0.60	96%	40%	52	103
Dentists, All Other Specialists	<10	<10	0.54	Insf. Data	Insf. Data	29	79
Dietetic Technicians	27	25	0.51	76%	56%	29	79
Orthotists & Prosthetists	<10	<10	0.51	Insf. Data	Insf. Data	29	79
Podiatrists	<10	<10	0.51	Insf. Data	Insf. Data	29	79
Chiropractors	32	30	0.47	Insf. Data	Insf. Data	29	79
Anesthesiologists	21	11	0.23	Insf. Data	Insf. Data	0	0
Cardiovascular Technologists & Technicians	18	17	0.22	75%	Insf. Data	29	79
Pediatricians, General	12	<10	0.14	Insf. Data	Insf. Data	47	70
Radiation Therapists	<10	<10	0.13	Insf. Data	Insf. Data	29	79
Surgeons	17	<10	0.13	Insf. Data	Insf. Data	16	12

Source: EMSI, 2019.