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Contribution of Sitting Bull College to North Dakota's Economy in 2016



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Cynthia Lindquist, President, Cankdeska Cikana Community College (CCCC)
Twyla Baker-Demaray, President, Nueta Hidatsa Sahnish College (NHSC)
Laurel Vermillion, President, Sitting Bull College (SBC)
James Davis, President, Turtle Mountain Community College (TMCC)
Leander “Russ” McDonald, President, United Tribes Technical College (UTTC)

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Executive Summary

The North Dakota Association of Tribal Colleges (NDATC) is comprised of the state's five Tribal Colleges. Tribal colleges are relatively new in North Dakota compared the North Dakota University System's colleges and university. The first college was established in 1969. Sitting Bull College was chartered in 1973. Tribal Colleges were established to provide post-secondary cultural-based educational opportunities on North Dakota's Native American reservations and for the urban Indian population in the Bismarck-Mandan area.

Expenditure and enrollment data provided by each respective college were used to estimate the economic impact for each of the individual colleges and the cumulative impact of the five Tribal Colleges. The combined economic impact of the five colleges is reported in Coon et al. (2017)a. This report will focus specifically on the Sitting Bull College in Forth Yates, North Dakota which serves Standing Rock Native American Reservation.

Expenditures by colleges constitute the direct, or first-round, economic effects. Sitting Bull College spent \$5.9 million in North Dakota in Fiscal Year (FY) 2016. More than half of these expenditures (direct effects) (\$2.8 million) represent personal income consisting of payments for wages and salaries. Total economic impact (direct plus secondary) of Sitting Bull College was nearly \$17.5 million in FY2016. Total business activity (direct plus secondary) was \$6.8 million in the *Households* sector (economy-wide personal income) and \$4.4 million in the *Retail Trade* sector. Sitting Bull College employed 97 full-time and 29 part-time workers. Levels of business activity generated by Sitting Bull College expenditures would support an additional 39 secondary jobs in various sectors of the North Dakota economy.

In addition to expenditures related to the college's operations, student spending also contributes to the economic impacts associated with the college. Expenditures by full-time and part-time students for personal items, recreation, books, supplies, and room and board were estimated to be \$2.6 million in the 2015-2016 academic year. Total economic impact (direct plus secondary) from student spending was \$6.4 million (\$2.6 million in direct impacts plus \$3.8 million in secondary impacts). Student spending would generate enough economic activity to support 11 secondary (indirect and induced) jobs in North Dakota.

Sitting Bull Colleges provides valuable post-secondary educational programs which result in both social and economic benefits. While the social value of a college degree is difficult to quantify, the economic value can be described in terms of business activity, lower unemployment, higher median annual earnings, and a higher total lifetime income. Previous studies have determined that college graduates have healthier life styles, healthier children, increased job satisfaction, have shown decreased prejudice, enhanced knowledge of world affairs, and have enhanced social status. Many of these benefits are passed onto succeeding generations. Further, college graduates have lower unemployment rates and higher annual incomes. Sitting Bull College and its students have substantial impacts on their local economy. Social and economic benefits accrue to individuals with higher academic achievement.

Contribution of Sitting Bull College to North Dakota's Economy in 2016

Randal C. Coon, Nancy M. Hodur, and Dean A. Bangsund*

Introduction

North Dakota has numerous institutions of higher education. The North Dakota University System (NDUS) consists of 11 colleges and the North Dakota Association of Tribal Colleges (NDATC) consists of five institutions. One of those five institutions is Sitting Bull College (SBC). Located in Fort Yates, SBC serves the Standing Rock Native American Reservation. The Tribal Colleges are relatively new to the state's educational system with the first college chartered in 1969. Sitting Bull College was established in 1973. In addition to educational opportunities for students, SBC has an economic impact on the state and local community. Sitting Bull College makes expenditures for goods and services purchased in the state, hires employees to staff their institutions, and constructs campus buildings to deliver post-secondary, cultural-based education. The purpose of this study is to estimate the economic impact that SBC's operations and student expenditures have on the North Dakota economy. The combined economic effects of the five Tribal Colleges are reported in Coon et al. 2017a, while this report will focus on the economic impacts of SBC. Consistent with previous studies, an economic impact analysis will be completed for each of the other four Tribal Colleges and presented in separate reports (Coon et al. 2017b, Coon et al. 2017c, Coon et al. 2017d, and Coon et al. 2017e). Methods, analysis, and format are consistent for each of the five colleges and previous assessments of the colleges' economic effects. Methods and analysis are also consistent with an assessment of the economic contribution of the North Dakota University System. This analysis will parallel studies conducted for the North Dakota University System.

An economic impact assessment of the North Dakota Association of Tribal Colleges was previously completed in 2012 (Coon et al. 2013). This study will update the previous study and estimate the economic impact of SBC operations in FY2016 and student spending during the 2015-2016 academic year using similar analytic methods as previous studies. Prior to the 2012 study, the impacts of Tribal Colleges were examined individually; Cankdeska Cikana Community College for FY2008 (Leistriz and Bangsund 2008), Sitting Bull College for FY2009 (Leistriz and Bangsund 2010), and United Tribes Technical College for FY2010 (Gipp et al. 2011). The North Dakota University System has sponsored several economic impact assessments beginning with Fiscal Year (FY) 1999 and FY 2004 (Leistriz and Coon 2005), FY2006 (Leistriz and Coon 2007), FY2008 (Leistriz and Coon 2009), FY2009 (Bangsund et al. 2010), FY2011 (Coon et al. 2012a), FY2012 and FY2013 (Coon et al. 2014), and FY2014 and FY2015 (Coon et al. 2017).

In addition to the economic impact analysis, this study will include an examination of the value of a college education. A comprehensive review of published literature summarizes the social and economic value of a college education. While data on the value of a college education are not specific to

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North Dakota's Tribal Colleges, they illustrate the value of a college education in general. Published statistics and selected research findings highlight the social and economic value of a post-secondary education. Also contained within this report is background information about SBC including a history of the school, campus location, academic areas of study, degrees granted, and the mission of the college.

Background of Sitting Bull College

The Standing Rock Tribal Council granted a charter to Standing Rock Community College to operate as a post-secondary educational institution with authority to grant Associate degrees in 1973. Standing Rock Community College opened its doors in 1973 with offices and classrooms in Fort Yates, and three full-time people on staff. In 1975, Standing Rock Community College began the accreditation process. The North Central Association of Colleges and Schools Commission on Higher Education granted Standing Rock Community College full accreditation in 1984. At this time the college's name was changed to Standing Rock College. The Standing Rock Sioux Tribal Council changed the college's name to Sitting Bull College in 1996. In 1998 Sitting Bull College began building a new campus overlooking the Missouri River. New construction included buildings for academics, administration, athletics, arts, as well as family housing and dormitories. Sitting Bull College added Bachelor of Science degrees (business administration and elementary education) in 2004 and additional degrees in 2007 and 2008. The college's mission statement is: "Sitting Bull College is an academic and technical institution committed to improving the levels of educational training, economic and social development of the people it serves while promoting responsible behavior consistent with the Lakota/Dakota culture and language".

Expansion of the campus and college resulted in employment growth with 97 full-time and 29 part-time workers in 2016 and enrollment reaching 197 full-time and 48 part-time students for Fall Semester of the 2015-2016 academic year. The student enrollment numbers equated to 224 FTE students for the Fall Semester. Sitting Bull College grants six types of degrees in 37 fields including Master of Science degrees (2), Bachelor of Science degrees (6), Associate of Arts degrees (5), Associate of Science degrees (9), Associate of Applied Science degrees (2), and certificate of completion degrees for achievement in vocational training programs (13). Bachelor of Science degrees are awarded in business administration, early childhood education, elementary education, secondary science education, special education, environmental science, and general studies. Sitting Bull College provides various student services including childcare and tutoring.

Methods

In-state expenditures for Sitting Bull College comprise the direct economic impacts, or first-round effects. Actual total in-state expenditures for SBC operations were used to calculate direct effects. A brief questionnaire requesting outlays for various expenditure categories was distributed to each of the tribal colleges. Each of the colleges completed the questionnaire providing estimates for in-state expenditures for operations expenses such as wages and salaries, benefits, construction, utilities, repairs and maintenance, etc. Data collection efforts for this assessment resulted in a complete and consistent data set. In-state expenditures were allocated to industrial categories, or sectors, defined by the North Dakota Input-Output Model (Coon et al. 2012b). Expenditures included both outlays for capital

improvements and general campus operations. Impacts can vary year to year based on the level of capital improvements in any given year.

The North Dakota Input-Output Model was used to estimate the secondary economic impacts based on Sitting Bull College expenditure data. The North Dakota Input-Output Model consists of interdependence coefficients, or multipliers, that measure the level of business activity generated in each economic sector from an additional dollar of expenditures in a given sector. A sector is a group of similar economic units, (e.g., firms engaged in retail trade make up the *Retail Trade* sector). For a complete description of the input-output model, see Coon et al. (1989). The model estimates the changes in total business activity (gross receipts) for all sectors of the area economy resulting from the direct expenditures associated with each of the five Tribal Colleges. Increased business volumes were used to estimate secondary employment, and estimates of tax revenues were based on historic relationships. Methods and procedures for this analysis are similar to those used in estimating the impact of other facilities and activities in the state (Leistriz 1995; Bangsund and Leistriz 2004). The North Dakota Input-Output Model was previously used to estimate the economic impacts for the Tribal Colleges in 2012 (Coon et al. 2013) and for several assessments of the North Dakota University System (Coon et al. 2014). Empirical testing has confirmed the model's accuracy in estimating changes in levels of economic activity in North Dakota. Over the period 1958-2014, estimates of statewide personal income derived from the model averaged within 8 percent of comparable values reported by the U.S. Department of Commerce (Coon et al. 2016, Bureau of Economic Analysis 2016).

In addition to impacts associated with SBC operations expenditures, the economic effects associated with student expenditures were estimated. Previous assessments used secondary data from the North Dakota Career Resource Network to estimate expenditures for room and board. Representatives of the tribal colleges believe that tribal college students have different characteristics than students at non-tribal institutions and that secondary data used previously may not adequately represent tribal college student expenditures. For example, many tribal college students do not live on-campus, are older, and may have dependents. Accordingly, in order to more accurately estimate tribal college student expenditures, financial aid cost of attendance budgets from each tribal college were used to estimate student expenditures. The direct and total economic impact of student spending was estimated separately from the impacts associated with Sitting Bull College operations.

Student expenditures were estimated separately for each of the Tribal Colleges using each college's cost of attendance budget. Each college had several cost of attendance budgets based on student characteristics. For example, dependent students still live at home, independents students are financially independent and student with dependents are students with children. Cost of attendance budgets were on a per semester basis. Financial aid application data was used to determine how many students were in each of the cost of attendance budget categories. Student enrollment and enrollment status (i.e., full-time, $\frac{3}{4}$ -time, $\frac{1}{2}$ -time, or $\frac{1}{4}$ -time) were provided by each of the Tribal Colleges and converted to FTE students based on credit hours. Fall semester attendance was used to estimate FTE enrollment. Spring semester attendance was assumed to be the same as fall semester attendance. FTE students for the 2015-2016 fall semester and spring semester were multiplied by the estimated student living expenses based on the various cost of attendance budgets to obtain total student spending for the academic year. Student spending for personal items, recreation, books, supplies, and room and board represent direct or first-round economic effects. Student spending for each enrollment type and category was summed to calculate total student expenditures. Outlays for tuition and fees were excluded from the

estimate of student expenditures to prevent double counting. Economic effects of expenditures for tuition and fees were captured in the assessment of college operations.

Results

Sitting Bull College expenditures to North Dakota entities for FY2016 totaled \$5.9 million (Table 1). Direct expenditures were greatest in the *Households* sector (e.g., wages and salaries) with direct expenditures of \$2.7 million. When the North Dakota Input-Output Model coefficients (multipliers) were applied to the direct impacts, secondary impacts were estimated to be \$11.6 million in FY2016. Total (direct plus secondary) economic impacts totaled \$17.5 million in FY2016. Total economic impact would generate business activity of \$6.8 million in the *Households* sector (personal income) and \$4.4 million in retail sales.

In FY2016, Sitting Bull College had a measurable impact on the local and state economies. Sitting Bull College employed 97 full-time and 29 part-time workers. Levels of business activity resulting from SBC’s spending would support an additional 39 FTE secondary (indirect and induced) jobs in various sectors of the local and state economy. These levels of economic activity would be expected to generate sales and use tax revenues of \$205,000, personal income taxes of \$102,000, and corporate income taxes of \$30,000.

Table 1. Direct, Secondary, and Total Economic Impacts for Sitting Bull College Operations, FY2016			
Sector	Direct	Secondary	Total
	-----\$000-----		
Construction	215	430	645
Transportation	151	60	211
Communications & Public Utilities	346	587	933
Retail Trade	848	3,583	4,431
Finance, Insurance, Real Estate	738	797	1,535
Business & Personal Services	280	303	583
Professional & Social Services	524	457	981
Households	2,761	4,027	6,788
Other ¹	=	<u>1,377</u>	<u>1,377</u>
Total	5,863	11,621	17,484
¹ Other includes agriculture, mining, manufacturing, and government.			

Student Economic Impact

Fall enrollment for the 2015-2016 academic year was 197 full-time and 48 part-time students, resulting in a total of 224 full-time equivalent (FTE) students enrolled at Sitting Bull College. Most student expenditures (e.g., books, supplies, and room and board) likely were made in the community that is home to the college. While some student expenditures may occur in cities and trade areas other than those where the college is located, it was assumed, for the purposes of this study, that all student spending was in the local community where the college is located.

Based on expenditures per FTE student, students were estimated to have spent \$2.6 million in North Dakota on books, room and board, personal items, and recreation. As detailed in the methods section, expenditures for fees and tuition were not included in the estimate of student expenditures to prevent double counting. Expenditures for tuition and fees were captured in the assessment of college operations.

Average expenditures were \$5,792 per FTE student at SBC for the 2015-2016 academic year which was slightly higher than the average for all expenditures by all students at the five Tribal Colleges for the 2015-2016 academic year. Average expenditures for students at all five Tribal Colleges were \$5,417.

Student spending at the Tribal Colleges was allocated to two sectors of the North Dakota Input-Output Model: *Retail Trade* sector (75 percent) and *Finance, Insurance, Real Estate* sector (25 percent). Direct economic impact of student spending of \$2.6 million for academic year 2015-2016 was allocated to the *Retail Trade* sector (\$1.9 million) and the *Finance, Insurance, and Real Estate* sector (\$649,000). Applying these expenditures to the North Dakota Input-Output Model produced an estimate of the total (direct and secondary) economic impact. Secondary economic impacts resulting from student spending totaled \$3.9 million, and total economic impacts were estimated to be \$6.4 million for academic year 2015-2016 (Table 2). The largest impacts were in the *Retail Trade* sector with \$2.9 million in retail trade activity and in the *Households* sector (economy-wide personal income) with total impacts of \$1.6 million. The total level of retail trade activity generated by student spending would be expected to generate \$135,000 in sales tax revenues, assuming all purchases were made in the North Dakota economy. Household expenditures would be expected to generate \$23,000 in personal income tax. Business activity from student spending would support 11 secondary (indirect and induced) jobs in the state.

There were some data limitations associated with student expenditures for housing and purchases for books and educational materials. Student expenditures for room and board were based on financial aid cost of attendance budgets. Some students would make payments for room and board to the college for on-campus housing while other students would make rent payments and payments for living expenses to non-campus entities. For those students that live on campus, payments for room and board would be captured in the assessment of college operations. Payments made to off-campus entities for rent or living expenses would be included in the estimates of economic contributions from student expenditures. However, data were not available to suggest what portion of student room and board expenditures were made to the college and what portion were made to non-campus entities. Further, it is likely that even for students that live on campus, some expenditures for living expenses would be made to off-campus entities. To maintain consistency with previous studies (Coon et al. 2013) the cost for

room and board were included in estimates of student spending. While there is likely some double counting of expenditures for room and board related to those students who live on campus, the effect is unlikely to be substantial.

Purchases for books and educational materials present some minor limitations. Books and educational materials are likely largely purchased at campus-sponsored bookstores and accordingly would be captured in the assessment of the college operations. Further, it is likely that most textbooks and educational materials would be purchased from publishing entities outside of North Dakota, and accordingly would not represent in-state expenditures by the colleges. Purchases of books and educational materials at off-campus entities would represent an in-state expenditure. Data was not available to suggest to what degree students purchase books and educational materials from on-campus or off-campus entities. To maintain consistency with previous analyses, the cost of books and educational materials was included in the student spending analysis (Coon et. al. 2013). Although the potential for some double counting of spending does exist, the effect on the total would be relatively small. SBC cost of attendance budgets estimate student expenditures for books and educational materials to be \$1,200 per year.

Table 2. Direct, Secondary, and Total Economic Impacts for Sitting Bull College Student Spending, Academic Year 2015-2016			
Sector	Direct	Secondary	Total
	-----\$000-----		
Construction	--	116	116
Communication & Public Utilities	--	189	189
Retail Trade	1,946	971	2,917
Finance, Insurance, Real Estate	649	205	854
Business & Personal Services	--	87	87
Professional & Social Services	--	107	107
Households	--	1,565	1,565
Other ¹	--	<u>613</u>	<u>613</u>
Total	2,595	3,853	6,448

¹Other includes agriculture, mining, transportation, manufacturing, and government.

Value of a College Education

A college education has both social and economic benefits. A review of published literature illustrates the range of benefits associated with a college degree. While the monetary value of higher education has been studied extensively, social benefits have been more difficult to quantify. While an analysis of the value of a college education for graduates of the SBC was beyond the scope of this study, a review of published findings on the value of a college education will provide insight into how a college education can benefit both students and communities.

One obvious advantage of a college degree is better wages, but benefits extend beyond increased salaries. Adults with a college degree are shown to be healthier, more active citizens, and are more likely

to read to their children than those without a college degree (Baum et al. 2010). College graduates are 14 percent less likely to be obese than high school graduates and nearly twice as likely to exercise vigorously. Only 9 percent of college graduates smoke compared to 27 percent of those with, at most, a high school diploma. A higher percentage of college-educated parents (68 percent) read to their children daily than do high school graduates (27 percent) (Baum et al. 2010) and people with a college degree donate their time to community organizations at a higher rate than any other group. Rawley and Hurtado (2002) contend that benefits of a college degree are also passed along to succeeding generations. Additionally, “college attendance has been shown to decrease prejudice, enhance knowledge of world affairs, and enhance social status while increasing economic and job security” (Rawley and Hurtado, 2002).

The Alliance for Excellent Education (2012) published a report stressing the importance of providing a quality education to all children, regardless of race or socioeconomic status. This report states that in order to maintain the economic strength of the United States, it is imperative to provide all students with a quality education. In addition to the economic benefits individuals receive from increased education, communities, states, and the nation also benefit. For example, if the 2011 high school graduation rate would have been 90 percent, an additional 750,000 students would have earned a diploma, which would have resulted in an additional \$9 billion earned each year and increased tax collections of \$2 billion per year at the federal, state, and local levels (Balfanz et al. 2012). The actual national graduation rate in 2010-2011 was 79 percent (U.S. Department of Education, 2017). Although the study did not report statistics specifically for Native American students, it stated that 31 percent of whites aged twenty-five and older held a Bachelor’s degree in 2011, compared to 20 percent for blacks and 14 percent for Hispanics (Alliance for Excellent Education 2012).

The Alliance for Excellent Education (2012) study concluded that improving education levels in the United States could save tens of billions of taxpayer dollars annually on social costs, such as health care, unemployment, and incarceration. Improving education for traditionally underserved and under-represented groups is a major factor in breaking the cycle of poverty and disenfranchisement. Low education levels are closely associated with increased rates of homelessness, teen pregnancy, and community violence.

Research by Hardy (2010) compiled seven benefits associated with higher education. Benefits were categorized as either economic or social. Economic benefits include: higher earnings potential, employer-provided health care coverage, and job stability. Social benefits were lower stress, healthier lifestyle choices, job satisfaction, and future children benefits. Job satisfaction is a benefit that might be overlooked, but because people spend most of their lives working, how they feel about their work can greatly affect them. Salient observations regarding future benefits for children included correlation between mother’s education and the health of her children. Child mortality rates decreased as the mother’s education attainment levels increased, and parents with a higher education had higher expectations for their children to earn a college degree. In addition, parents with college degrees were more likely to pay for their children’s college education. In a report released by Cankdeska Cikana Community College (2010) the social benefits particular to Native American reservations were listed as mitigation of social problems, centers for preservation of culture, language and traditions, provision for further educational opportunities, technology transfer, and community programs.

Numerous studies have examined the earnings advantage for a college graduate compared to a high school graduate. However, the lifetime earnings advantage for a college degree varies by study. Lifetime earnings advantage ranged from a low of \$150,000 (Robinson 2010), to a middle range of \$650,000 (Pew Research Center 2011), with the highest of \$1,000,000 (Longley 2010). The wide range of values for a college degree were due to assumptions regarding unemployment and underemployment. Robinson (2010) assumes that 29 percent of college graduates are underemployed (i.e., working at high school-level jobs). Current national unemployment rates remain in the 5 percent range, and many college graduates may be underemployed based on the level of education. However, these workers will move into jobs in their career field as they become available. Robinson (2010) also acknowledged that the value of a college education could range from \$150,000 to \$500,000 over the course of a lifetime. An estimated \$1 million earnings advantage for a college degree was the highest reported. People with less than a high school degree are at a distinct disadvantage to those with high school or college degrees. The unemployment rate for individuals in the United States with less than a high school diploma was 8.0 percent compared to 2.8 for individuals with a Bachelor’s degree in 2015 (Figure 1).

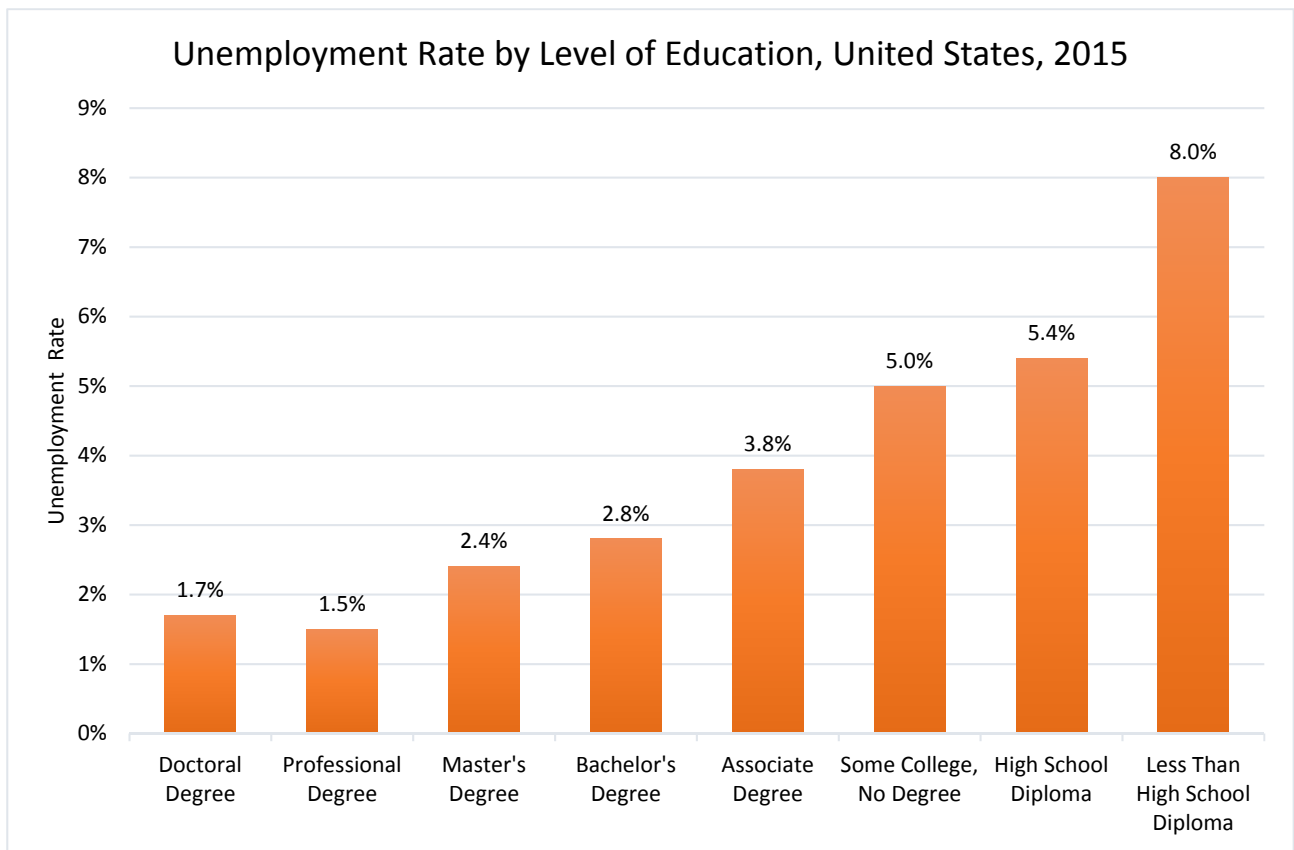


Figure 1. Unemployment Rate by Level of Education in the United States, 2015. Source: U.S. Bureau of Labor Statistics 2015.

Adults in the United States with, at most, a high school degree received median annual earnings that were about 60 percent of those with a Bachelor’s degree in 2015 (Figure 2). Bachelor’s degree holders’ mean annual earnings were \$59,124 compared to \$35,256 for those with a high school degree (Bureau of Labor Statistics, 2015). Baum and Ma (2007) completed a comprehensive assessment on the

value of higher education and analyzed income earning potential by level of education, race/ethnicity, and gender. This study developed rates of lifetime earnings for all educational levels compared to a high school degree baseline (i.e., a high school degree had a value of 1.00).

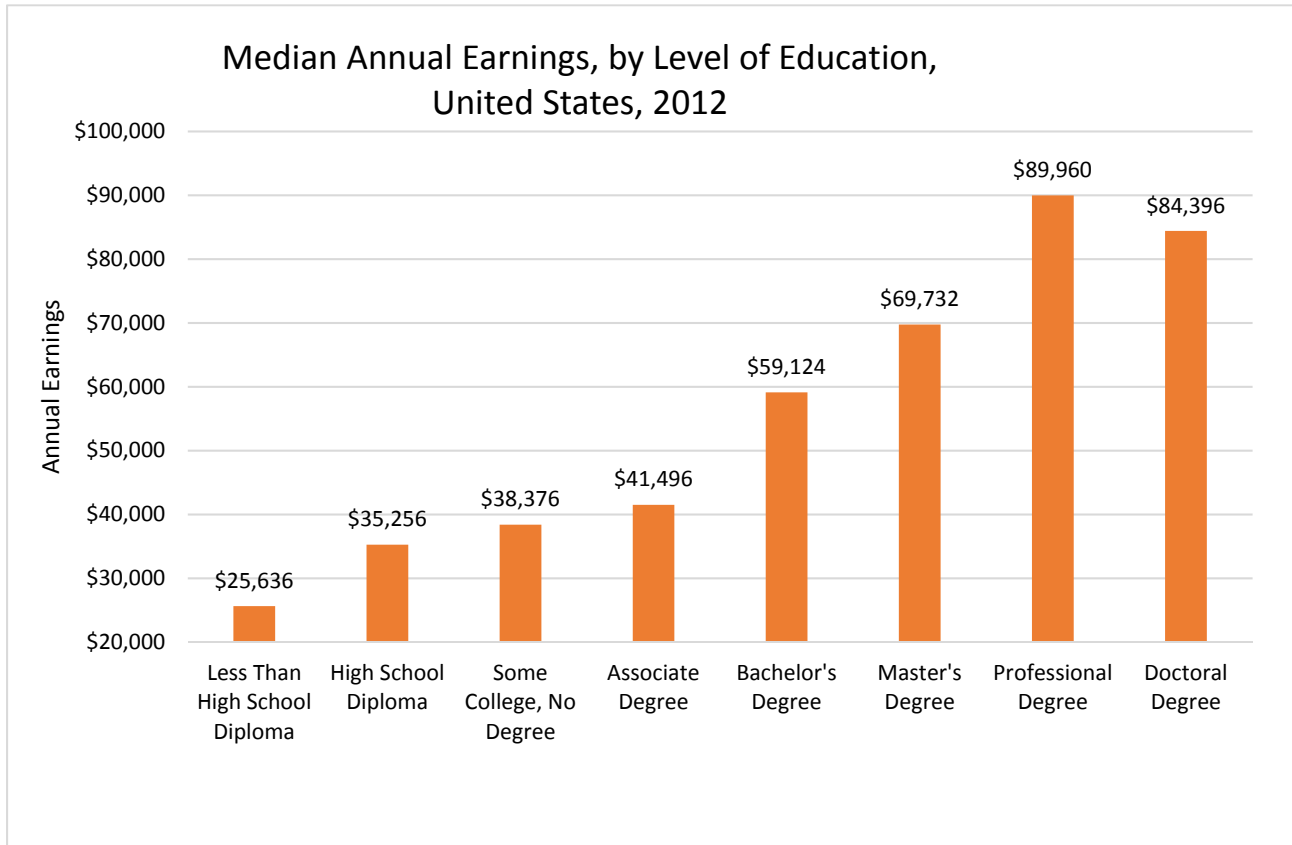


Figure 2. Median Annual Earnings of Adults Age 25 and Older, Full-time Year-round, United States, 2012

Source: U.S. Bureau of Labor Statistics 2015.

Figure 3 presents the earnings ratio for various levels of education. A Bachelor's degree has an earnings ratio of 1.65, meaning that lifetime earnings of a college graduate will be 65 percent more than a high school graduate (Baum and Ma 2007). Lifetime earnings for those with an Associate's degree were 27 percent higher than earnings for those with a high school diploma. A non-high school graduate will earn 28 percent less than a high school graduate over their working lives. Post-baccalaureate degrees returned even higher lifetime earnings.

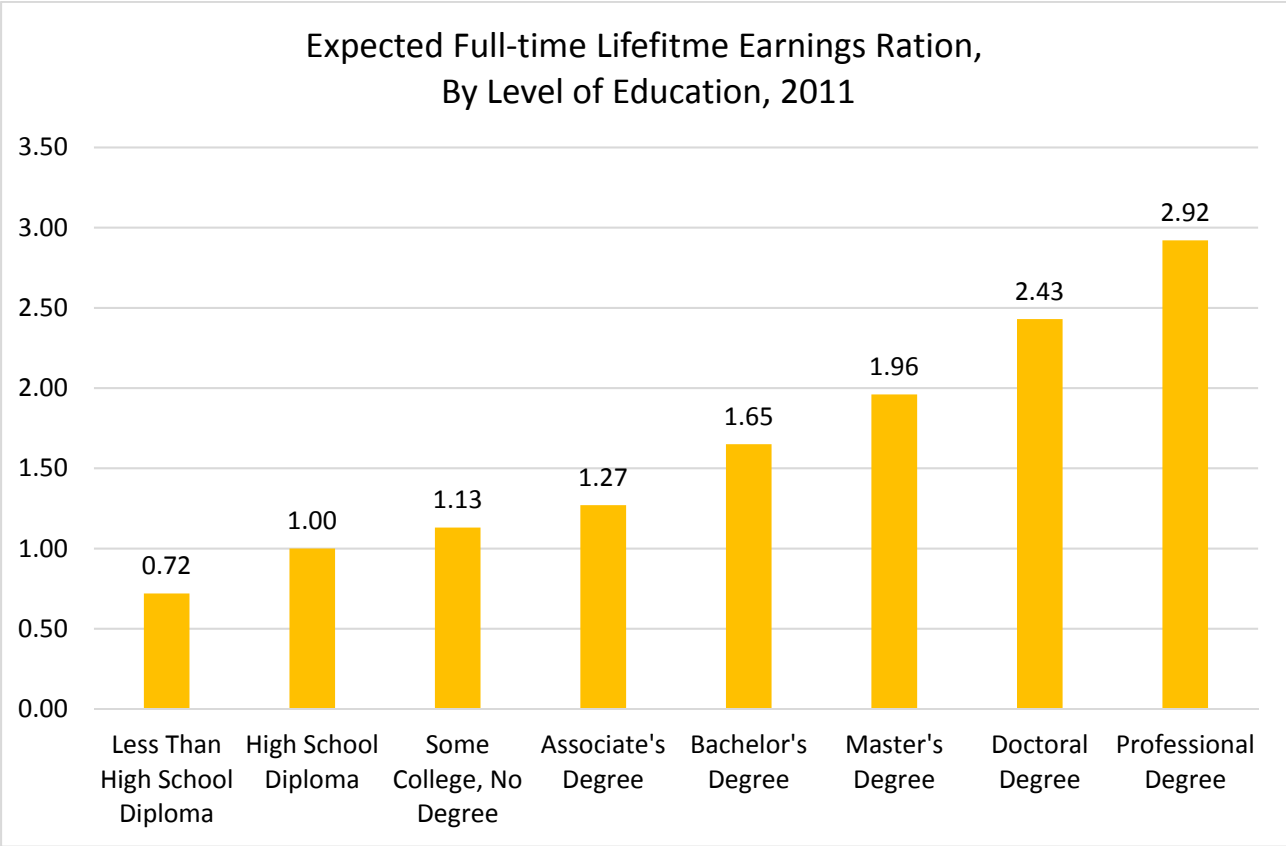


Figure 3. Ratio of Expected Lifetime Earnings Relative to High School Graduates in the United States, by Education Level, 2011.
 Source: Baum et al. 2013.

The percentage difference in median wages associated with level of education clearly shows the wage effects associated with education. The median income for individuals with an Associate’s degree was 25 percent higher than the median income for an individual with a High School diploma in 2015. Median earnings associated with a Bachelor’s degree were 67 percent higher earnings associated with a High School diploma and median earning for a Master’s Degree were 104 times that of a High School diploma. The differences in median wages between a High School Diploma and higher levels of education have remained relatively constant since 2005 (Figure 4).

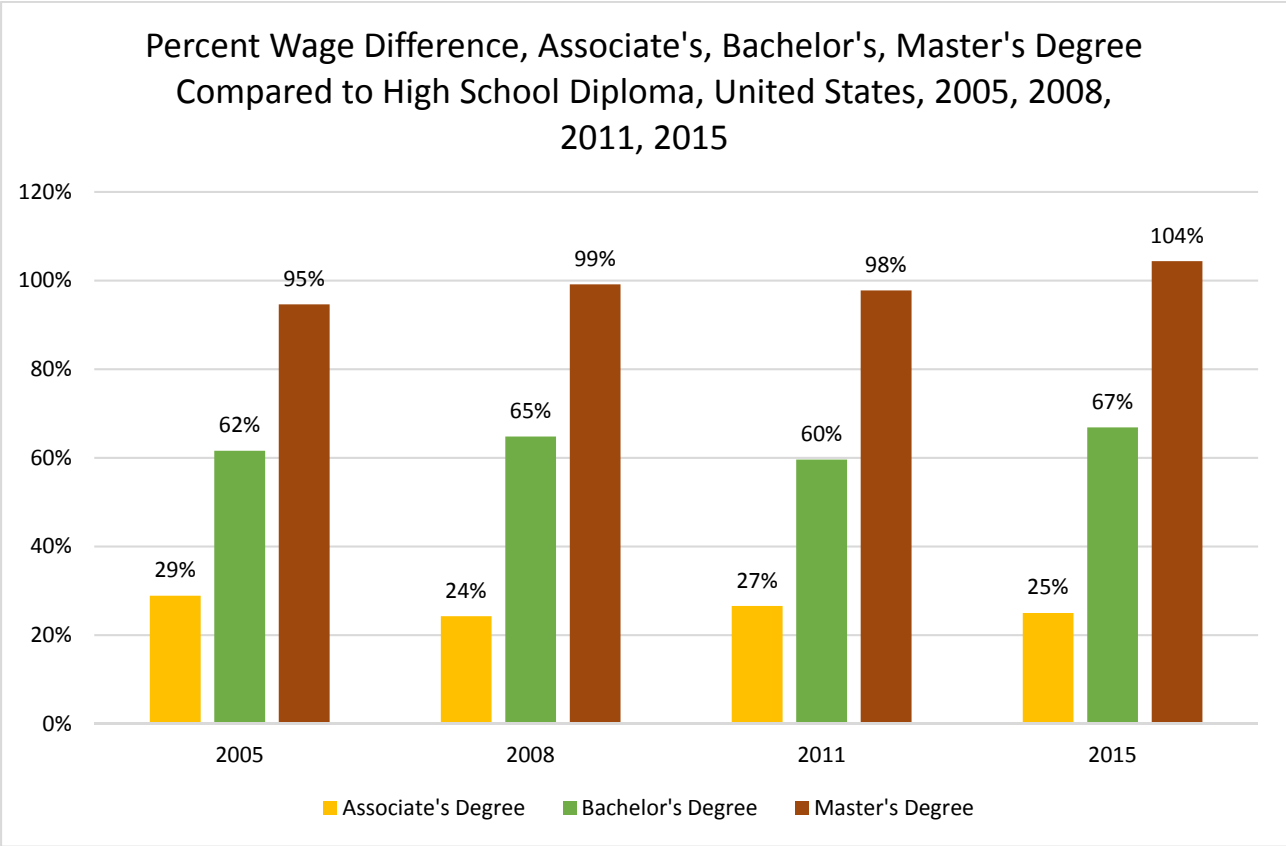


Figure 4. Percent Average Difference in Wages, Bachelor’s Degree and Master’s Degree Compared to High School Diploma, United States, 2005, 2008, 2011, 2015

Source: Baum and Ma 2007, Baum et al. 2010, Baum et al. 2013, Ma et al. 2016

Zaback et al. (2012) also developed earnings ratios for education levels relative to a high school degree and developed the ratios for different academic areas (i.e., arts and humanities, business) and for each state. This analysis also found that a college degree results in a higher median income, even though the variation across states and disciplines is substantial. Almost without exception, each successive level of higher education attainment results in additional economic benefits. Clearly, education achievement at every level is associated with greater lifetime earnings.

Despite well-documented benefits of higher educational attainment, educational attainment was lower on Native American reservations than for North Dakota overall (U.S. Census, 2015). Statewide, 4 percent of the state’s population age 25 or older have at most, some high school but no diploma. On the state’s Native American reservations, the percentages of the population with some high school but no diploma are higher, ranging from 6 percent on Fort Berthold to 15 percent on Spirit Lake (Figure 5). Attainment is similar for a high school diploma with roughly a third of the both Native American and state-wide population with a high school diploma. The exception is Turtle Mountain where only 18 percent of the population age 25 or older has a high school diploma. Figure 6). Statewide 20 percent of the population 25 years and older has a Bachelor’s degree compared to 10 percent on the Spirit Lake reservation, 13 percent on Standing Rock, 14 percent on Fort Berthold, and 16 percent on Turtle Mountain. Nationally, in 2015, 42.3 percent of the population 25 years and older had a two-year degree

and 32.5 percent had a four-year college degree (Ryan and Baum 2016). Women were slightly more likely to be college-educated than men, with 32.7 percent having at least a Bachelor’s degree compared to 32.3 percent for men (Ryan and Baum 2016). Across nearly every level of education, educational attainment is lower on the state’s Native American Indian reservations than in North Dakota and the United States on average (Figure 5 and Figure 6).

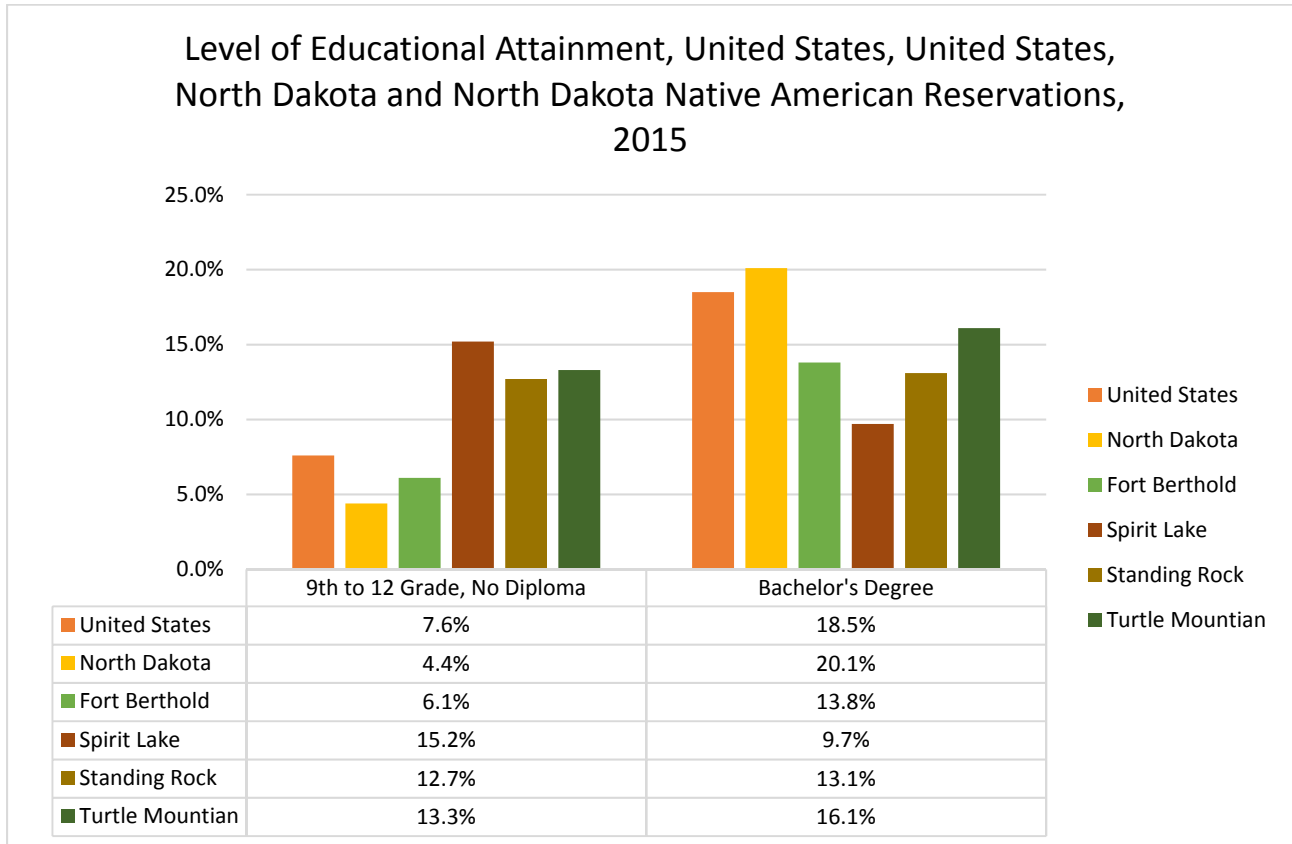


Figure 5. Level of Educational Attainment, North Dakota and Standing Rock Native American Reservation, 2015

Source: 2011-2015 U.S. Census American Community Survey, 2015

**Level of Educational Attainment, by Degree Type, United State,
North Dakota and North Dakota Native American Reservations,
2015**

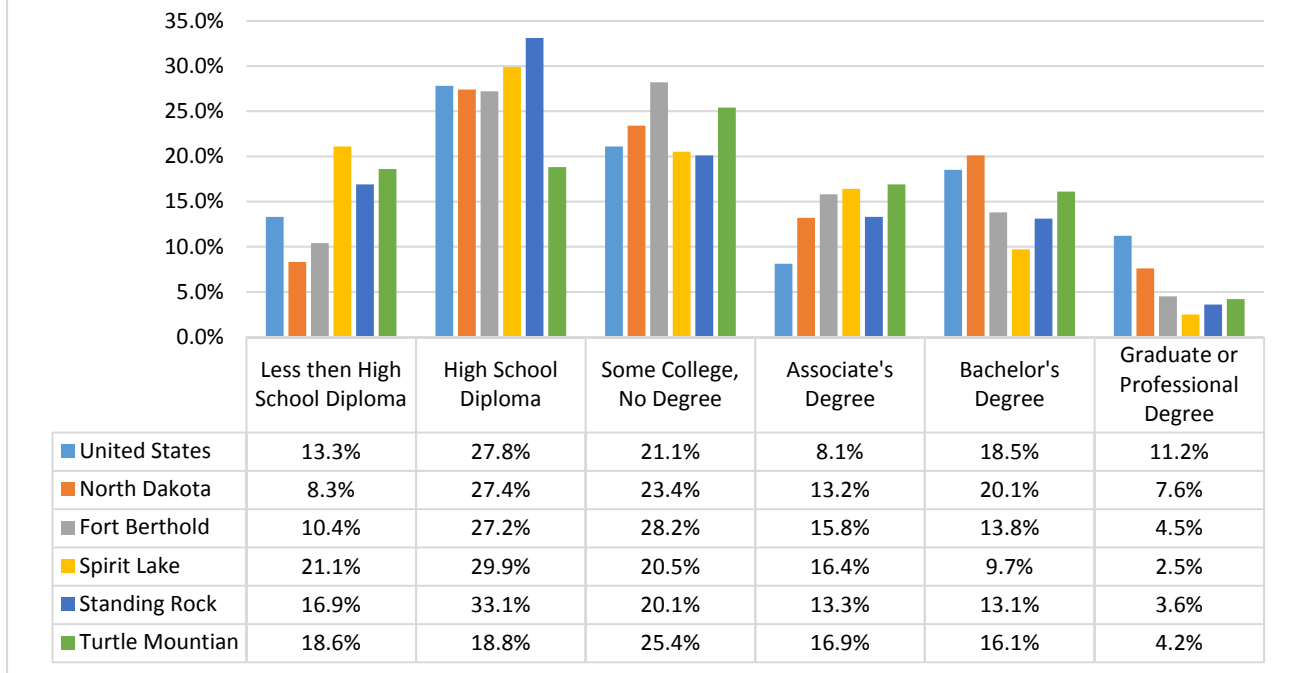


Figure 6. Level of Educational Attainment, by Degree Type, North Dakota and Standing Rock Native American Reservation, 2015

Source: 2011-2015 U.S. Census American Community Survey, 2015

High school graduation rates are lower on Native American reservations as well. High school graduation rates for all Native American students in North Dakota in 2014-2015 was 60 percent compared to the overall statewide graduation rate of 87 percent (Figure 7) (North Dakota Department of Public Instruction (2015)). Statewide, dropout rates for Native American students were 34 percent compared to 10 percent for all students. Graduation rates for Native American students at the Fort Yates school district in 2014-15 was 52 percent and the dropout rate was 42 percent (ND Department of Public Instruction, 2015)

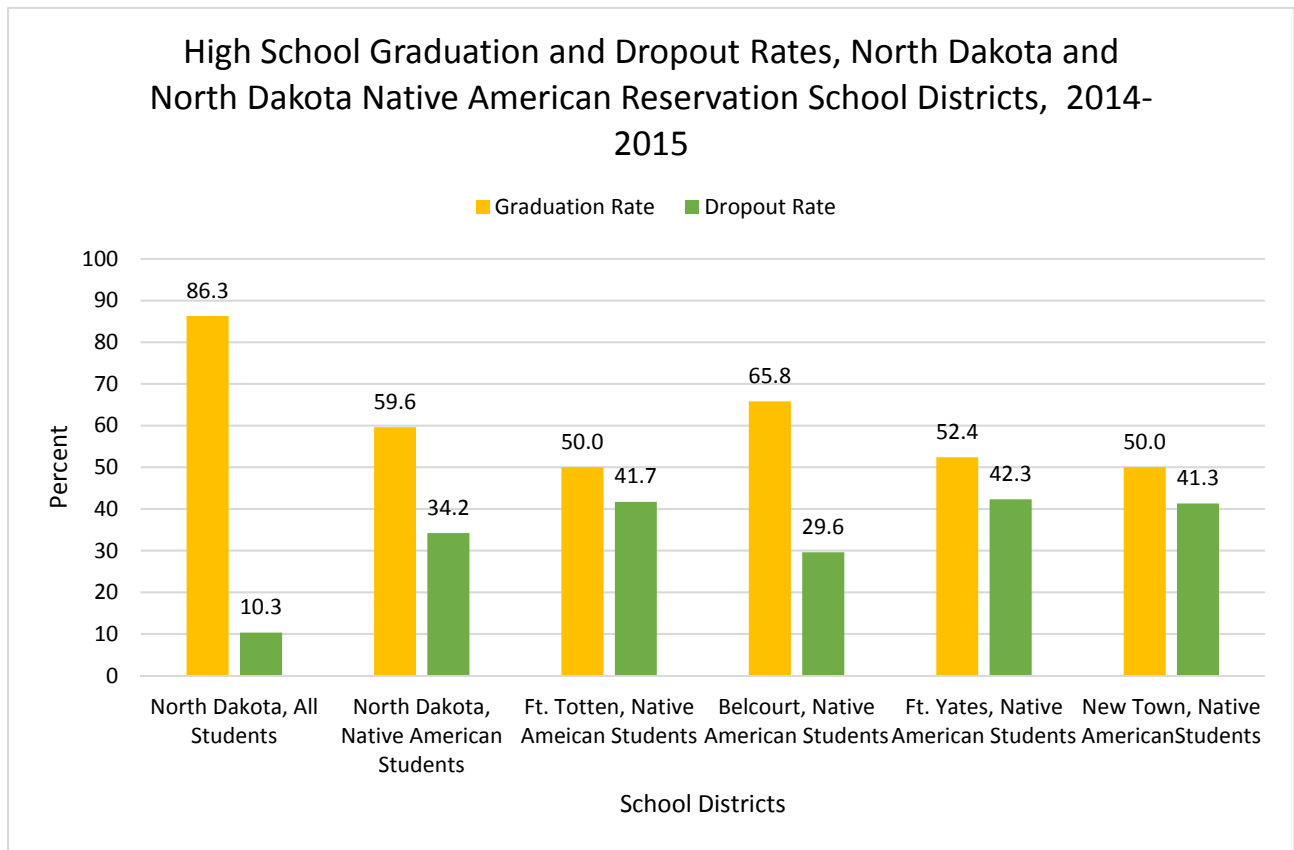


Figure 7. High School Graduation and Dropout Rates, North Dakota and Ft. Yates School District, 2014-2015

Source: North Dakota Department of Public Instruction, 2015

The social and economic benefits of educational attainment are well documented. Higher education results in increased earnings and improved social conditions. Improved economic and social conditions from post-secondary education enhance quality of life and the social and economic benefits of a college education are often passed onto subsequent generations. While the value of a post-secondary degree specific to SBC was beyond the scope of this study, published research and statistics clearly illustrate positive social and economic benefits of higher education. The state’s Tribal Colleges and SBC serve an important role in improving economic and social conditions on Native American reservations and in North Dakota communities through the delivery of post-secondary higher education.

Conclusions

The North Dakota Association of Tribal Colleges (NDATC) consists of five colleges located in North Dakota. One of those five colleges is the Sitting Bull College which serves the Standing Rock Native American Reservation in Fort Totten. In addition to providing cultural-based educational opportunities for Native Americans, tribal colleges also have an economic impact as a result of college operations, spending for goods and services, and wages and salaries. Student spending also contributes to the economic effects related to the Tribal Colleges. In addition to economic impacts, the higher education opportunities provided by SBC have both positive social and economic benefits.

Sitting Bull College direct expenditures into the North Dakota economy were \$5.9 million in FY2016. The college employed 97 full-time workers and 29 part-time workers. Total economic impact for SBC was \$17.5 million in FY2016, which included \$11.6 million of secondary impacts. Business activity in the *Households* sector, which measures economy-wide personal income, was estimated to be \$6.8 million in FY2016. Considering the largest expenditure category for the college was for wages and salaries, this result was not unexpected. Retail trade activity attributed to SBC's expenditures were estimated to be \$4.4 million in FY2016. Business activity generated by SBC's expenditures would be expected to generate \$205,000 in sales and use taxes, and \$102,000 in personal income taxes. In addition to the 97 full-time and 29 part-time jobs at Sitting Bull College, the level of business activity associated with college expenditures would support 39 secondary (indirect and induced) jobs.

Student expenditures for living expenses also have economic effects. A total of 245 students were enrolled on a full-time or part-time basis during the 2015-2016 academic year, resulting in 224 full-time equivalent students. Expenditures by the 224 FTE students at Sitting Bull College for personal items, recreation, books, supplies, and room and board totaled \$2.6 million for the 2015-2016 academic year. Total economic impacts (direct plus secondary) associated with student expenditures was \$6.4 million; secondary effects totaled \$3.9 million. Impacts were the greatest in the *Retail Trade* sector (\$2.9 million). The next highest level of business activity was in the *Households* sector (economy-wide personal income) with \$1.6 million in direct impacts. This level of business activity would support 6 secondary jobs in various sectors of the North Dakota economy. Economic effects from student expenditures are in addition to those of Sitting Bull College operations.

In addition to local economic impacts, benefits accrue to individuals with higher academic achievement. Previous studies have determined that college graduates have healthier life styles, healthier children, increased job satisfaction, have shown decreased prejudice, enhanced knowledge of world affairs, and enhanced social status. Many of these benefits are passed onto succeeding generations. Further, college graduates have lower unemployment rates and higher annual incomes than those without a college degree. The national unemployment for high school graduates was 5.4 percent in 2015, nearly double the 2.8 percent rate for those with a Bachelor's degree. Higher income is also associated with education attainment. In 2015, the median annual earnings in the United States for a college degree was \$59,124, while median annual earnings for a high school degree was \$35,256, approximately 60 percent of earnings associated with a Bachelor's degree.

Currently in North Dakota there is considerable education disparity between Native American populations and the state population overall. Educational attainment is lower on Native American reservations than in North Dakota overall. Across nearly every level of education, education attainment is lower on the Standing Rock Native American Reservation than in North Dakota and the United States overall. Published research and statistics clearly illustrate positive social and economic benefits of higher education. The Tribal Colleges and SBC serve an important role in improving economic and social conditions for people and communities on North Dakota Native American reservations and throughout North Dakota through the delivery of post-secondary higher education.

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