Arkansas Education to Employment Report 2013

February 2014

The following report analyzes employment outcomes for Arkansas residents by level of educational attainment and the year in which their highest level of education was attained.

Arkansas Research Center

HANOVER RESEARCH

TABLE OF CONTENTS

PRODUCED BY:

Arkansas Research Center

HANOVER RESEARCH

IN COOPERATION WITH:

ARKANSAS DEPARTMENT OF HIGHER EDUCATION

Jobs for People. People for Jobs.
DWS
Department of WORKFORCEServices

Arkansas Department ACE of Career Education

ARKANSAS DEPARTMENT OF EDUCATION
LEADERSHIP SUPPORT SERVICE

ARKANSAS DEPARTMENT OF EDUCATION

EXECUTIVE SUMMARY

This report analyzes 2012 employment outcomes for Arkansas residents by level of educational attainment. This work builds on previous research presented in the 2011 Arkansas Education to Employment Report, using new and expanded data to investigate employment outcomes for Arkansas residents who achieved their highest levels of education between 2002 and 2011. The report provides a snapshot of what these individuals' employment outcomes are in 2012, as well as one year, two years, and five years after attaining their highest level of education. The report is designed to study the value of public higher education in the state of Arkansas by addressing the following questions:

- What are the employment outcomes of individuals who achieved their highest level of educational attainment between 2002 and 2011, as of 2012, in the state?
- How does level of education impact salary?
- What is the median salary by level of attainment and field of study of Arkansas residents?
- In which industry areas are Arkansas residents employed after they achieve their highest level of education?

Compared to the 2011 Arkansas Education to Employment Report, this version extends the analysis by including information regarding individuals who did not graduate from high school, high school graduates, GED certificate holders, individuals who attended college but did not earn a degree (referred to as "some college" in this report), and individuals who have earned a post-master's certificate. In keeping with the 2011 report, this analysis again analyzes employment outcomes for individuals with a variety of postsecondary awards, from certificates of proficiency through doctoral degrees.

This study supports national data that links employment outcomes to educational attainment. Arkansas data for graduates of the state's public colleges and universities, as well as individuals with lower levels of educational attainment, confirm that the more education an individual achieves, the stronger employment outcomes he or she will experience. Of particular note, the analysis illustrates how higher levels of education correspond to higher salaries and more time employed (measured in terms of average quarters worked).

NOTE ON METHODOLOGY

Aside from the use of additional and newer data, as described above, this report largely follows the same methodology as the 2011 Arkansas Education to Employment Report. Where the current report deviates slightly from the 2011 version, it is noted in the discussion that follows. Please see the 2011 report for additional detail regarding the methodology.

PRIVACY & DATA SECURITY

All agencies involved in this report protect the identity of individuals and have taken all necessary steps to ensure individual privacy. No personally identifiable information was released to any person or organization not directly involved in this research project.

A dual-database architecture was used for each agency to further protect the identity of all individuals included in this research. Identity information is maintained in one database which contains no data of interest such as wages or education attainment, while education and employment data are kept in separate databases, one for each agency, and these records contain no personally identifiable information. A unique, random identifier is assigned to each individual record, and this identifier is unique at the agency level. There is no way to combine data from multiple agencies without the use of a temporary crosswalk, which is destroyed once the dataset needed for research has been created and new unique identifiers assigned.

To further protect privacy for any data presented in this report, no results were reported where the number of individuals was less than 10.

SECTION I: EMPLOYMENT STATUS AND WAGE OUTCOMES BY HIGHEST EDUCATION LEVEL

DATA

In the pages that follow, we present a series of employment and education statistics segmented by highest level of education attained and year of attainment. The levels of education include the following:

- Less than High School Diploma
- GED
- High School Diploma
- Some College
- Certificate of Proficiency
- Technical Certificate
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Post Master's Certificate
- Doctoral 1st Professional Degree
- Doctor's Degree – Research (PhD)[1]

Given that "less than high school diploma" and "some college" do not correspond to a graduation year, the report uses the phrase "year highest education level attained" to indicate the year in which an individual reached his or her highest level of education. Further note that for "high school diploma" and "less than high school diploma," we analyze data from 2006 forward. As discussed above, data were drawn from multiple state agencies and combined to produce a larger research dataset. In some cases, data for individuals with a high school diploma or less than a high school diploma were not available in electronic format prior to 2006 and therefore could not be linked to workforce information.

NUMBER OF INDIVIDUALS BY HIGHEST EDUCATION LEVEL

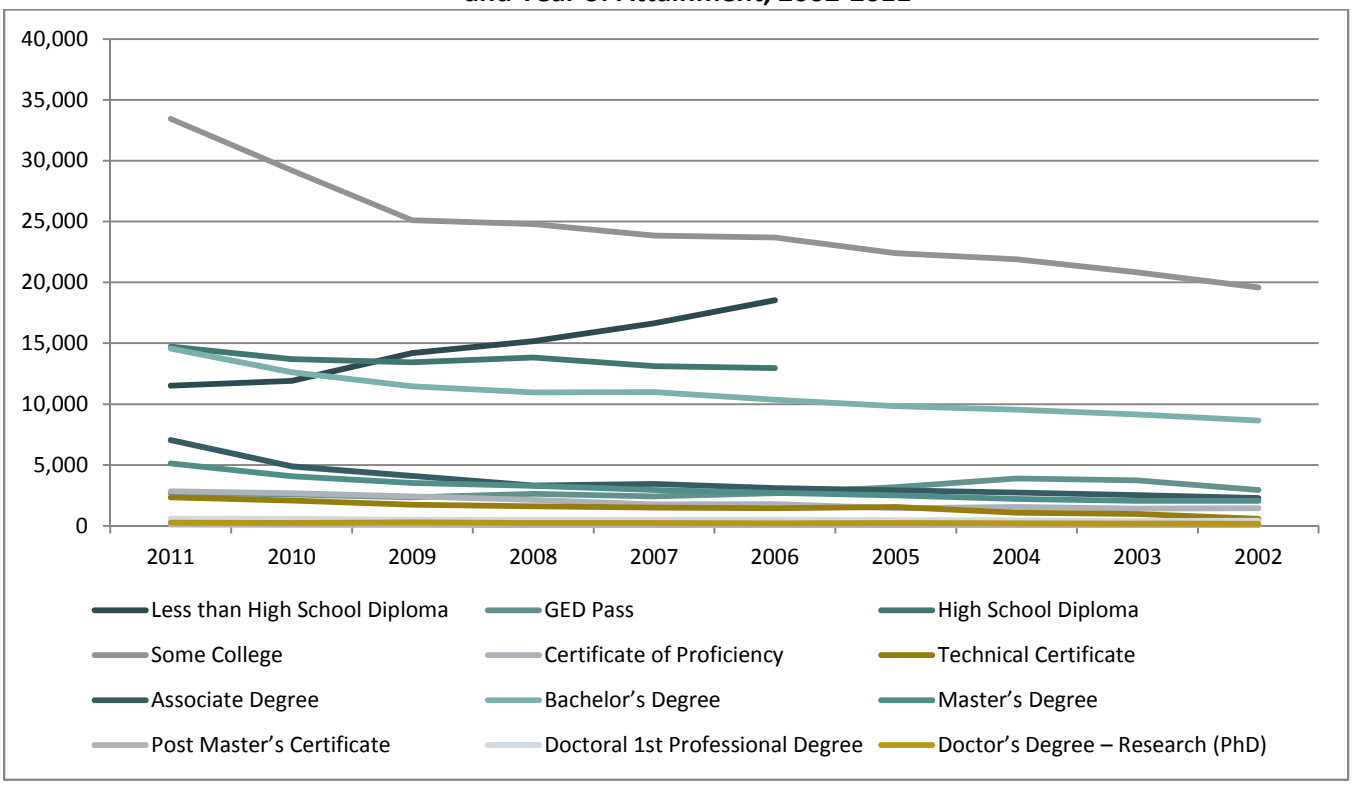
Figure 1.1 displays the number of individuals at each level of education and the year in which they attained their highest level of education (for certificate- and degree-holders, this is equivalent to their year of graduation) included in the analysis. Figure 1.2 displays these same data in the form of a line graph. Note that the graph presents data in reverse chronological order, with the most recent year displayed first. The data indicate that overall, the number of individuals completing some college, as well as those completing bachelor's degrees, has increased in recent years, while the number of individuals with less than a high school diploma has decreased.

[1] Note that the "Doctor's Degree – Research (PhD)" also includes the Doctor of Education (EdD).

Figure 1.1: Number of Individuals by Highest Level of Education Attained and Year of Attainment, 2002-2011

Years Since Attainment of Highest Education Level *(Year of Attainment)*	1 Year *(2011)*	2 Years *(2010)*	3 Years *(2009)*	4 Years *(2008)*	5 Years *(2007)*	6 Years *(2006)*	7 Years *(2005)*	8 Years *(2004)*	9 Years *(2003)*	10 Years *(2002)*	Total
Education Level											
Less than High School Diploma	11,507	11,903	14,189	15,159	16,653	18,527	-	-	-	-	**87,938**
GED Pass	2,695	2,588	2,327	2,622	2,429	2,670	3,171	3,879	3,742	2,937	**29,060**
High School Diploma	14,735	13,701	13,430	13,830	13,109	12,968	-	-	-	-	**81,773**
Some College	33,457	29,199	25,116	24,805	23,846	23,692	22,412	21,912	20,823	19,600	**244,862**
Certificate of Proficiency	2,838	2,671	2,410	2,123	1,765	1,776	1,456	1,545	1,422	1,442	**19,448**
Technical Certificate	2,326	2,064	1,743	1,615	1,489	1,448	1,545	1,076	976	581	**14,863**
Associate's Degree	7,043	4,885	4,109	3,313	3,431	3,094	2,917	2,738	2,514	2,288	**36,332**
Bachelor's Degree	14,568	12,614	11,451	10,972	10,982	10,347	9,842	9,543	9,139	8,649	**108,107**
Master's Degree	5,116	4,070	3,519	3,291	2,951	2,718	2,501	2,217	2,037	2,040	**30,460**
Post Master's Certificate	92	72	69	60	43	50	19	26	24	32	**487**
Doctoral 1st Professional Degree	579	585	506	485	498	502	462	441	397	430	**4,885**
Doctor's Degree – Research (PhD)	254	233	298	234	223	216	238	215	176	163	**2,250**
Total	**95,210**	**84,585**	**79,167**	**78,509**	**77,419**	**78,008**	**44,563**	**43,592**	**41,250**	**38,162**	**660,465**

Figure 1.2: Number of Individuals by Highest Level of Education Attained and Year of Attainment, 2002-2011



Figures 1.3a and 1.3b display the share of individuals at each level of educational attainment, for the most recent year (2011), and for the combined years of 2006 through 2011, respectively. As observed in the previous graph (Figure 1.2), the share of individuals attaining "some college" or a "bachelor's degree" increased slightly in 2011, as compared to the past six years. By contrast, the share of individuals attaining "less than a high school diploma" as their highest level of education has decreased.

Figure 1.3a: Share of Individuals by Highest Level of Education Attained, 2011

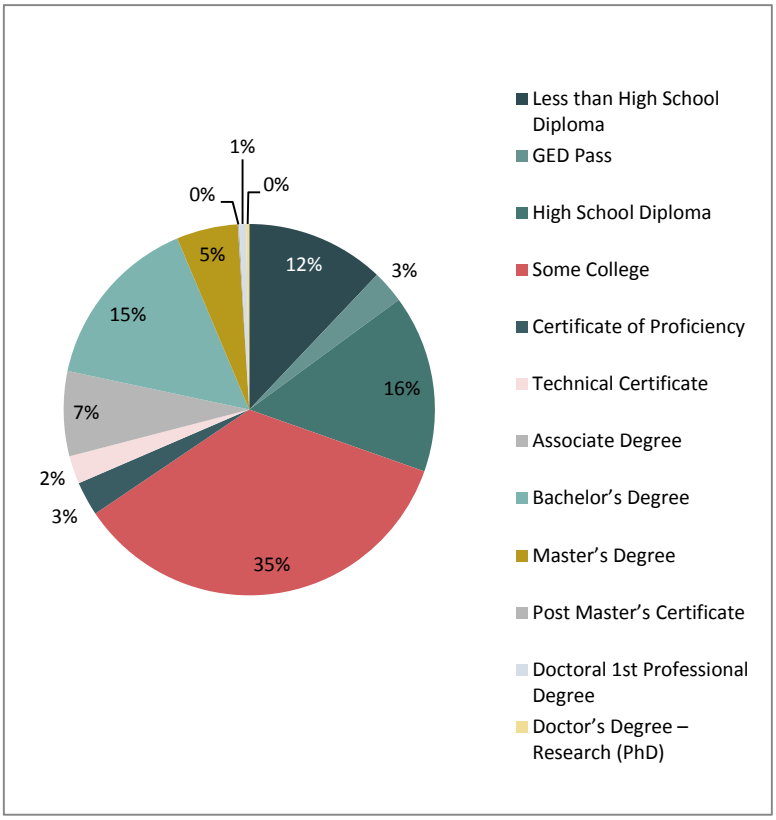
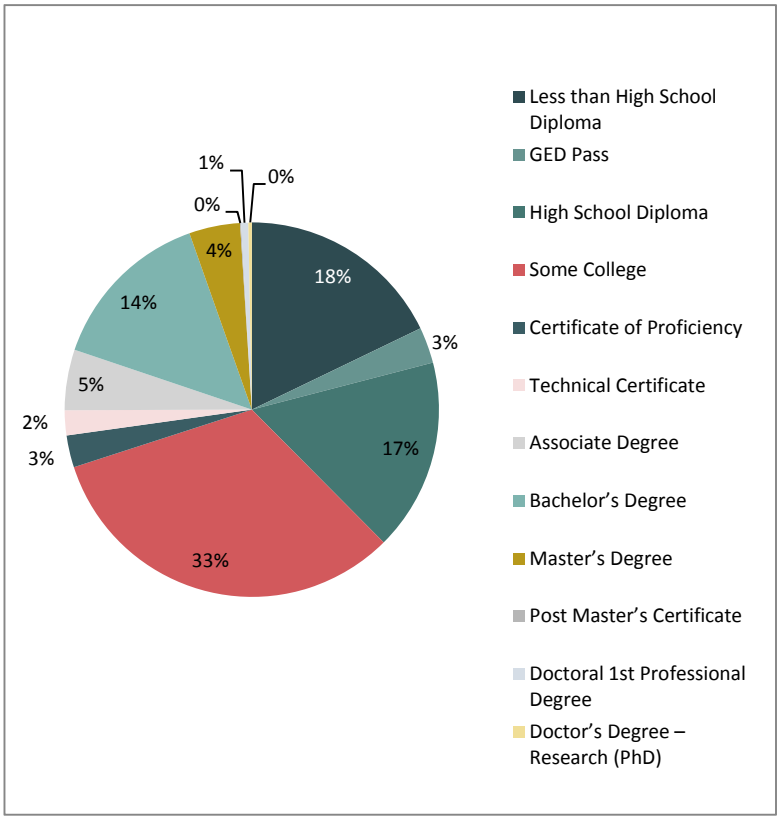


Figure 1.3b: Share of Individuals by Highest Level of Education Attained, 2006-2011



SHARE OF INDIVIDUALS EMPLOYED IN ARKANSAS IN 2012 BY HIGHEST EDUCATION LEVEL

Figure 1.4 displays the share of individuals employed in Arkansas in 2012, segmented by highest level of educational attainment and year of attainment. Note that **it is important to keep in mind that these figures only represent individuals who are employed within the state in non-U.S. government positions** (i.e., excludes military, USPS, and federal agency jobs). As such, the seemingly lower employment witnessed among individuals with higher levels of education (particularly the doctoral levels) is likely linked to these individuals either leaving the state or being employed in U.S. government positions.

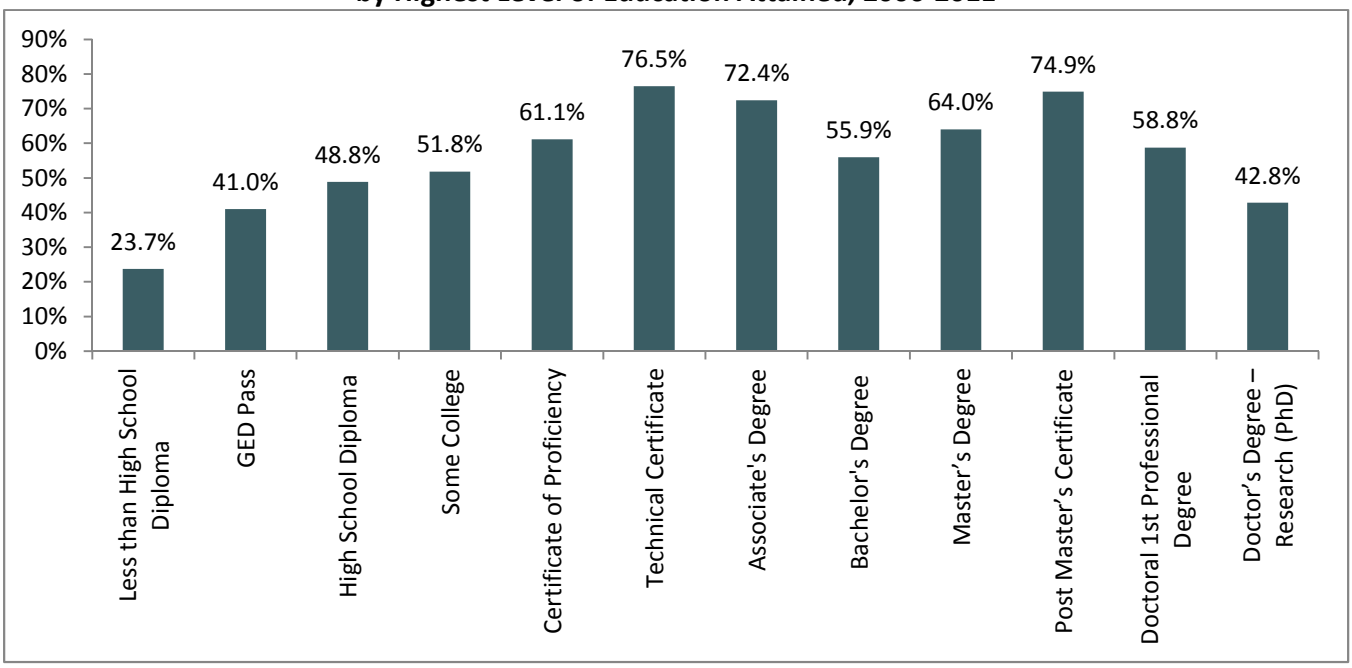
Figure 1.4: Share of Individuals Employed in Arkansas in 2012 by Highest Level of Education Attained and Year of Attainment, 2002-2011

Years Since Attainment of Highest Education Level (Year of Attainment)	1 Year (2011)	2 Years (2010)	3 Years (2009)	4 Years (2008)	5 Years (2007)	6 Years (2006)	7 Years (2005)	8 Years (2004)	9 Years (2003)	10 Years (2002)
Education Level										
Less than High School Diploma	28.2%	28.4%	26.7%	23.9%	20.0%	18.8%	-	-	-	-
GED Pass	43.3%	42.4%	42.6%	39.5%	38.8%	39.2%	39.8%	44.1%	41.8%	40.5%
High School Diploma	52.0%	50.9%	50.3%	48.3%	45.4%	45.6%	-	-	-	-
Some College	59.7%	54.9%	50.9%	49.2%	47.2%	45.2%	45.4%	43.6%	41.3%	40.5%
Certificate of Proficiency	74.3%	71.2%	66.1%	55.0%	47.4%	39.0%	37.4%	34.4%	40.4%	37.8%
Technical Certificate	80.7%	78.7%	74.7%	77.2%	73.4%	71.2%	67.8%	67.4%	63.7%	58.9%
Associate's Degree	74.8%	75.1%	73.9%	69.7%	67.8%	69.1%	65.2%	63.5%	62.1%	60.0%
Bachelor's Degree	62.3%	58.3%	55.4%	54.8%	51.7%	50.4%	49.9%	46.9%	45.8%	44.9%
Master's Degree	69.2%	67.3%	65.4%	61.1%	58.8%	56.5%	53.1%	49.8%	50.7%	51.2%
Post Master's Certificate	77.2%	70.8%	76.8%	76.7%	67.4%	78.0%	68.4%	69.2%	62.5%	50.0%
Doctoral 1st Professional Degree	59.4%	59.3%	57.5%	58.6%	58.4%	59.2%	58.0%	55.1%	57.2%	54.7%
Doctor's Degree – Research (PhD)	49.2%	45.5%	42.3%	33.3%	46.6%	39.4%	38.7%	43.3%	31.8%	38.7%

Figure 1.5 offers a visual representation of the share of individuals employed in Arkansas in 2012 by highest level of education attained. These statistics include individuals who attained their highest level of education from 2006 to 2011 and therefore represent the overall percentage of individuals employed in each educational category in 2012 within the state. As the figure depicts, even when the number of years that have elapsed since an individual attained his or her highest level of education is ignored, higher levels of education generally correlate with higher levels of employment. In particular, we find that individuals holding technical certificates and associate's degrees exhibit the highest levels of employment in Arkansas in 2012, along with those who have earned post master's certificates.

Once again, it is important to keep in mind that these data only represent individuals employed *within the state of Arkansas*. Therefore, in addition to illustrating employment outcomes of individuals by level of education, the data also speak to mobility. Individuals with higher levels of education are more mobile and many leave Arkansas for employment elsewhere after their education.

Figure 1.5: Share of Individuals Employed in Arkansas in 2012 by Highest Level of Education Attained, 2006-2011



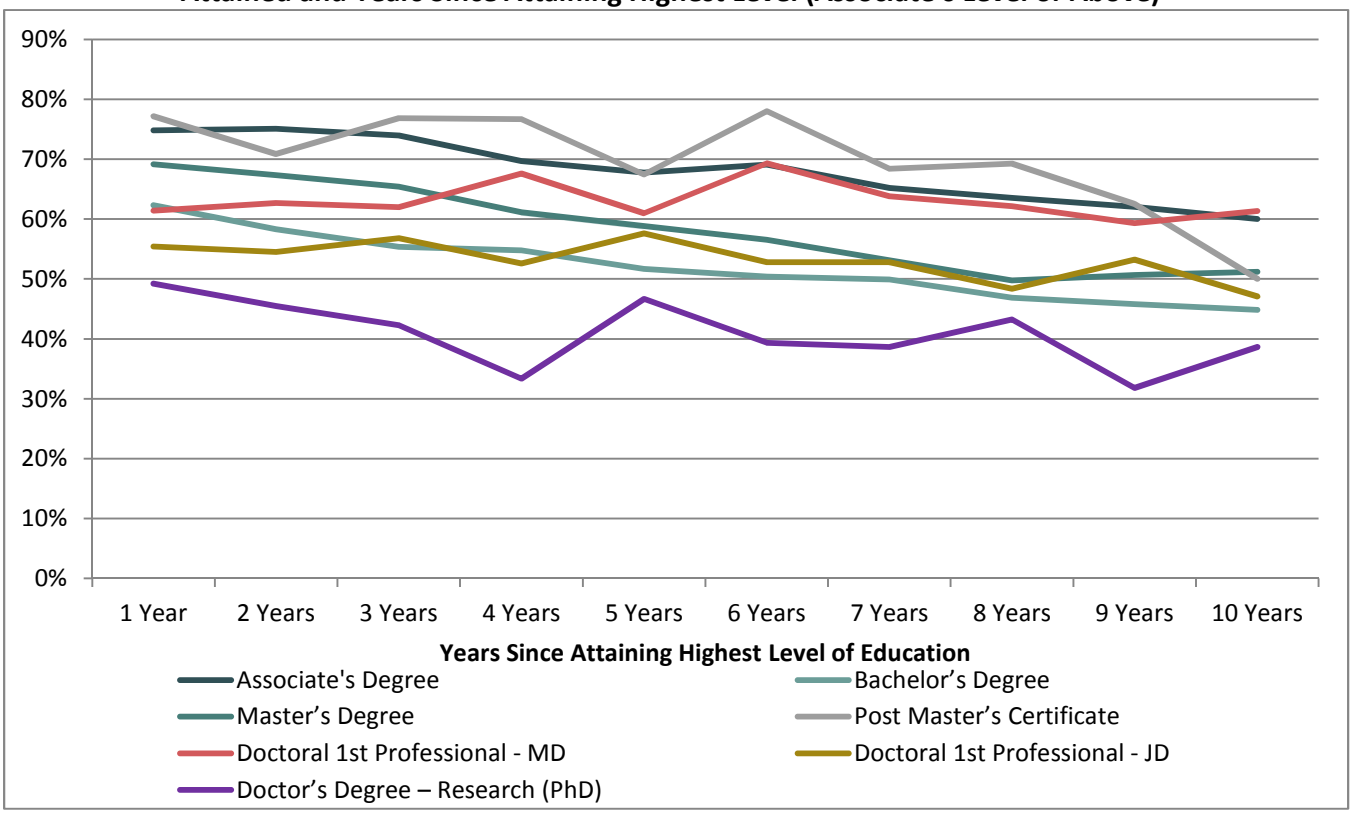
EMPLOYMENT TRENDS BY HIGHEST EDUCATION LEVEL

Figures 1.6a and 1.6b display trends in 2012 employment status in Arkansas among individuals who earned select types of postsecondary credentials. Based on the available data, we are unable to draw firm conclusions regarding the fluctuation in the percentage of individuals employed within the state over time. This represents an area for future research.

For Figure 1.6a, we have separated the "Doctoral 1st Professional Degree" into two categories – Medical Doctor (MD) and Juris Doctor (JD) – in order to examine trends among these distinct degree types in greater detail. More than 95 percent of individuals with "Doctoral 1st Professional Degrees" fall into one of these two categories.

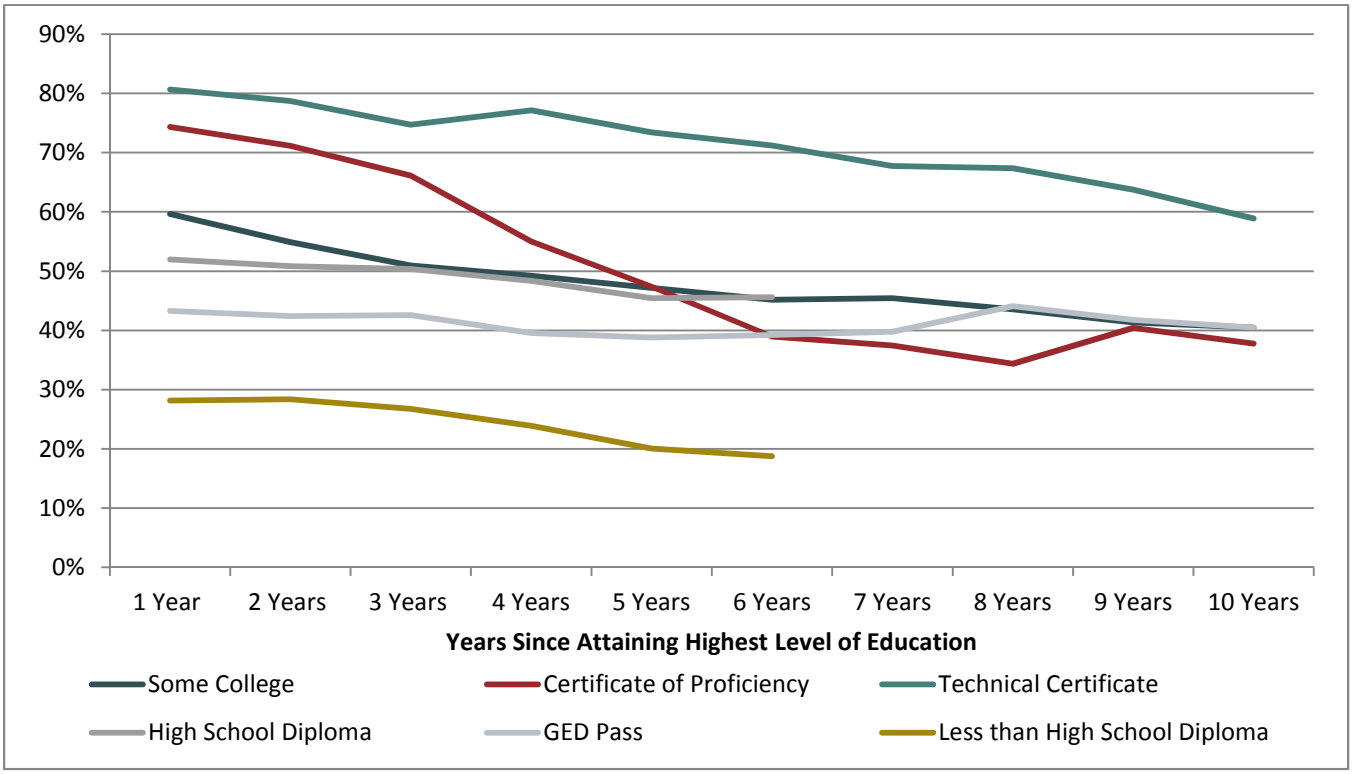
Further note that the MD classification is an inclusive category for all individuals with a "Doctoral 1st Professional Degree" in a health-related field and covers MDs, as well as individuals with a first professional degree in pharmacy, occupational therapy, and physical therapy. In order to simplify reporting, these are combined into a single MD category. Similarly, the PhD category also includes individuals with EdD degrees.

Figure 1.6a: Employment Status in Arkansas in 2012 by Highest Level of Education Attained and Years Since Attaining Highest Level (Associate's Level or Above)[2]



[2] Note that although the employment status of PhD – Research degree-holders appears low, it is likely that a majority of these degree-holders are employed outside Arkansas.

Figure 1.6b: Employment Status in Arkansas in 2012 by Highest Level of Education Attained and Years Since Attaining Highest Level (Below the Associate's Level)



AVERAGE QUARTERS OF WAGES REPORTED IN 2012 BY HIGHEST EDUCATION LEVEL

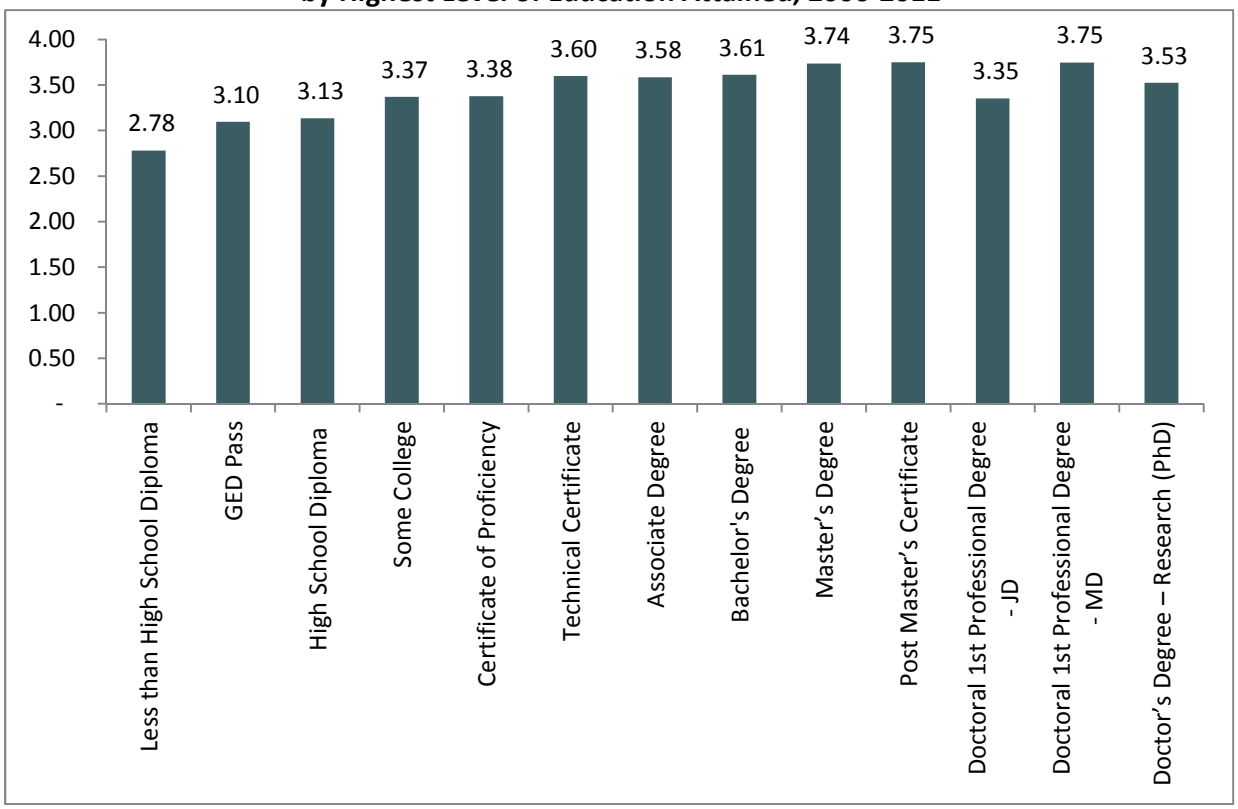
Figure 1.7 displays the average number of quarters with wages reported in 2012 among individuals at each level of educational attainment, further segmented by the number of years since they achieved their highest level of education. As noted previously, the calculations in Figure 1.7 include only those individuals identified as employed in Arkansas in non-U.S. government positions in the year 2012. Further, since over 95 percent of the individuals who are "Doctoral 1st Professional" degree-holders are either JDs or MDs, and because these fields exhibit distinct employment outcomes, we report statistics for the two fields separately in the figure below.

Figure 1.7: Average Quarters of Wages Reported in 2012, by Highest Level of Education Attained and Year of Attainment, 2002-2011

Years Since Attainment of Highest Education Level *(Year of Attainment)*	1 Year *(2011)*	2 Years *(2010)*	3 Years *(2009)*	4 Years *(2008)*	5 Years *(2007)*	6 Years *(2006)*	7 Years *(2005)*	8 Years *(2004)*	9 Years *(2003)*	10 Years *(2002)*
Education Level										
Less than HS diploma	2.68	2.70	2.78	2.83	2.83	2.86	-	-	-	-
GED Pass	2.89	3.13	3.14	3.08	3.19	3.19	3.16	3.12	3.17	3.20
HS Diploma	2.94	3.08	3.15	3.20	3.22	3.26	-	-	-	-
Some College	3.29	3.32	3.38	3.40	3.45	3.45	3.46	3.49	3.50	3.53
Certificate of Proficiency	3.30	3.39	3.35	3.44	3.45	3.45	3.45	3.50	3.58	3.56
Technical Certificate	3.54	3.56	3.63	3.65	3.63	3.62	3.59	3.66	3.66	3.65
Associate's Degree	3.50	3.57	3.59	3.62	3.66	3.66	3.65	3.66	3.68	3.72
Bachelor's Degree	3.56	3.61	3.60	3.63	3.66	3.63	3.66	3.63	3.65	3.65
Master's Degree	3.73	3.73	3.73	3.73	3.76	3.74	3.73	3.72	3.73	3.70
Post Master's Certificate	3.83	3.59	3.77	3.78	3.52	3.90	3.69	3.83	3.73	3.56
Doctoral 1st Professional Degree – JD	3.40	3.36	3.36	3.41	3.25	3.35	3.36	3.28	3.45	3.36
Doctoral 1st Professional Degree – MD	3.82	3.89	3.75	3.71	3.56	3.65	3.79	3.77	3.75	3.73
Doctor's Degree – Research (PhD)	3.40	3.41	3.56	3.64	3.58	3.64	3.64	3.62	3.59	3.73

As Figure 1.8 depicts, individuals who have only attained less than a high school diploma, a GED, or a high school diploma had fewer quarters of wages reported on average in 2012, compared to individuals with higher levels of educational attainment. This suggests that individuals with lower levels of educational attainment may be more likely to experience (at least temporary) unemployment, as compared to individuals who have achieved higher levels of education.

Figure 1.8: Average Quarters of Wages Reported in 2012, by Highest Level of Education Attained, 2006-2011



AVERAGE WAGES IN 2012 BY HIGHEST EDUCATION LEVEL

Figures 1.9a and 1.9b display the average wages earned in Arkansas in 2012 for individuals at each level of educational attainment, segmented by the number of years since that level was attained. Note that we have broken the figures down by "recent attainers" (individuals who reached their highest level of education in the past 1-5 years) and "past attainers" (individuals who reached their highest level of education in the past 6-10 years).

Note that once again, the figures report separate statistics for "Doctoral 1st Professional" degree-holders who have earned JDs or MDs, due to their distinct employment outcomes.

Figure 1.9a: Average Wages in 2012 by Highest Level of Education Attained ("Recent Attainers")

Years Since Attainment of Highest Education Level *(Year of Attainment)*	1 Year *(2011)*	2 Years *(2010)*	3 Years *(2009)*	4 Years *(2008)*	5 Years *(2007)*
Education Level					
Less than HS diploma	$8,622	$7,545	$8,680	$9,566	$10,117
GED Pass	$12,741	$15,346	$16,947	$15,848	$17,247
HS Diploma	$8,893	$10,999	$12,742	$14,319	$15,743
Some College	$17,063	$18,564	$21,100	$22,832	$24,540
Certificate of Proficiency	$16,428	$18,111	$19,198	$21,644	$24,320
Technical Certificate	$23,316	$24,569	$26,620	$27,444	$27,886
Associate's Degree	$22,016	$24,893	$27,412	$30,261	$30,876
Bachelor's Degree	$31,352	$34,069	$35,988	$38,960	$41,513
Master's Degree	$46,477	$49,812	$51,687	$52,395	$54,373
Post Master's Certificate	$58,959	$56,133	$63,002	$63,617	$65,821
Doctoral 1st Professional Degree – JD	$38,065	$48,022	$49,279	$53,297	$54,056
Doctoral 1st Professional Degree – MD	$82,428	$82,830	$89,295	$110,734	$128,715
Doctor's Degree – Research (PhD)	$52,254	$58,707	$58,681	$60,728	$68,443

Figure 1.9b: Average Wages in 2012 by Highest Level of Education Attained ("Past Attainers")

Years Since Attainment of Highest Education Level *(Year of Attainment)*	6 Years *(2006)*	7 Years *(2005)*	8 Years *(2004)*	9 Years *(2003)*	10 Years *(2002)*
Education Level					
Less than HS diploma	$10,924	-	-	-	-
GED Pass	$17,904	$18,114	$16,309	$17,822	$18,913
HS Diploma	$16,741	-	-	-	-
Some College	$25,878	$26,896	$28,208	$30,328	$32,159
Certificate of Proficiency	$23,764	$27,538	$28,566	$30,056	$34,505
Technical Certificate	$29,104	$29,808	$29,619	$29,420	$31,701
Associate's Degree	$32,170	$32,928	$33,099	$35,387	$35,901
Bachelor's Degree	$42,673	$45,779	$47,451	$48,832	$50,781

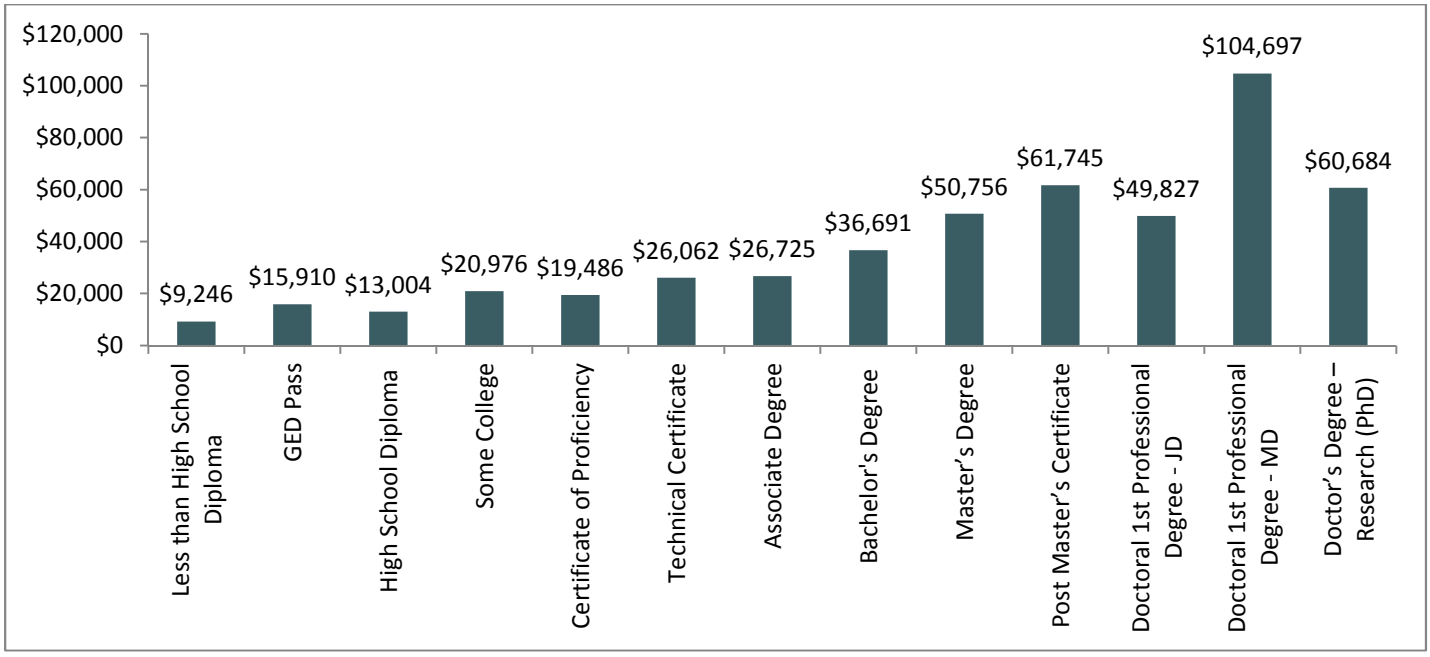
Years Since Attainment of Highest Education Level *(Year of Attainment)*	6 Years *(2006)*	7 Years *(2005)*	8 Years *(2004)*	9 Years *(2003)*	10 Years *(2002)*
Education Level					
Master's Degree	$54,666	$55,838	$58,561	$58,859	$60,499
Post Master's Certificate	$67,211	$62,298	$65,162	$62,418	$51,995
Doctoral 1st Professional Degree – JD	$56,159	$60,604	$66,452	$84,547	$78,148
Doctoral 1st Professional Degree – MD	$151,857	$171,969	$166,621	$203,121	$216,145
Doctor's Degree – Research (PhD)	$68,983	$69,332	$74,942	$76,714	$76,927

AVERAGE WAGE TRENDS BY HIGHEST EDUCATION LEVEL

Figure 1.10 demonstrates that higher levels of educational attainment are associated with higher wages, based on 2012 data. For example, an associate's degree holder earns less than a bachelor's degree holder, who in turn earns less than a master's degree holder. One exception to this pattern occurs where the average GED graduate earns slightly more than the average high school graduate. However, we caution against interpreting this finding to mean that a GED is more valuable than a high school diploma, as the GED is typically earned by someone who is older and may have previous work experience or skills. A simple comparison of mean wages of these two groups without controlling for such confounding factors may result in a misleading conclusion.

With respect to the most advanced levels of educational attainment, we also see some variation in average wages. In particular, the highest average wages are earned by "Doctoral 1st Professional Degree" holders who have obtained an MD, followed by those holding a "Post Master's Certificate" and "Doctor's Degree – Research (PhD)."

Figure 1.10: Average Wages in 2012 by Highest Level of Education Attained, 2006-2011



Work experience correlates with higher mean wages at all levels of attainment. Figures 1.11 and 1.12 trace the change in average earnings by years since an individual attained his or her highest level of education (i.e., a proxy measure of years in the workforce). Figure 1.11 displays the change in average earnings for individuals holding an associate's degree or higher, while Figure 1.12 displays the same data for individuals who have achieved a level of education below the associate's level. (Note that the scales of the figures are different to accommodate the difference in average wages for each educational category).

Figure 1.11: Average Wages in 2012 by Highest Level of Education Attained and Years Since Attaining Highest Level (Associate's Level and Above)

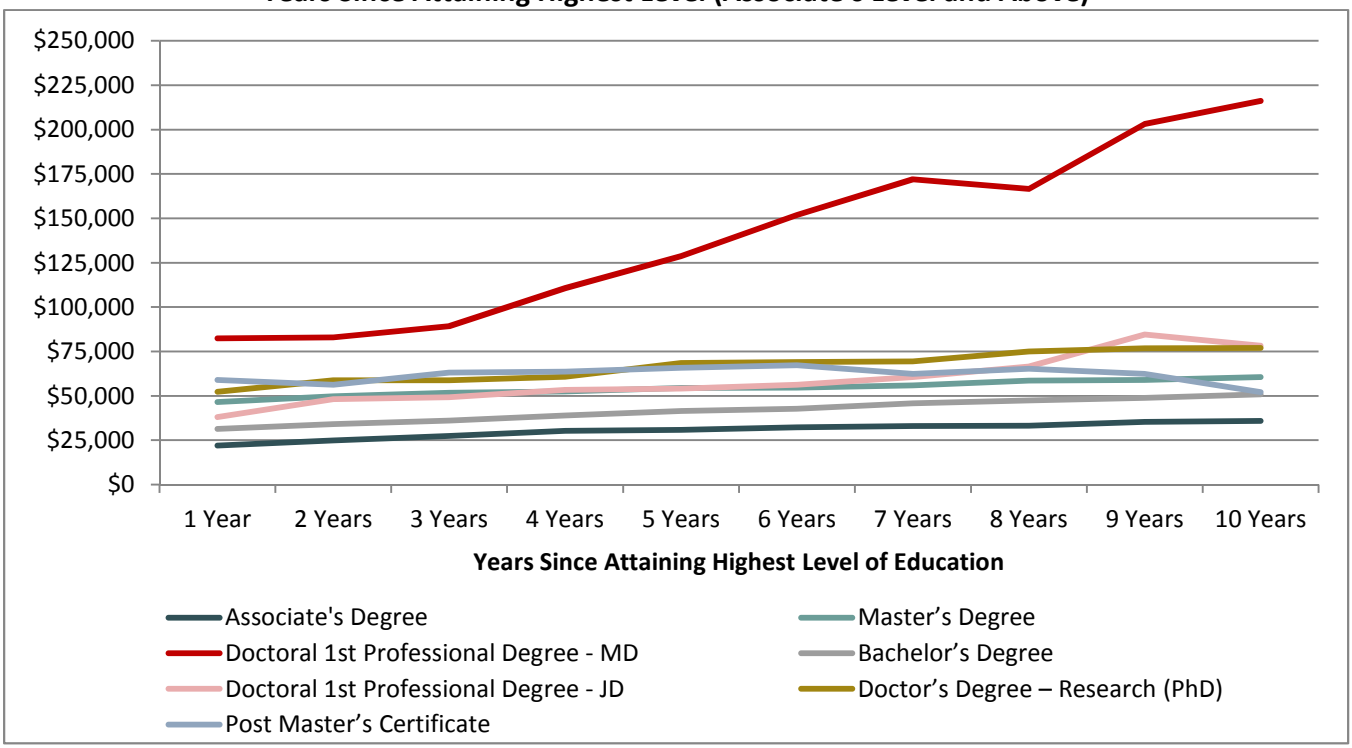
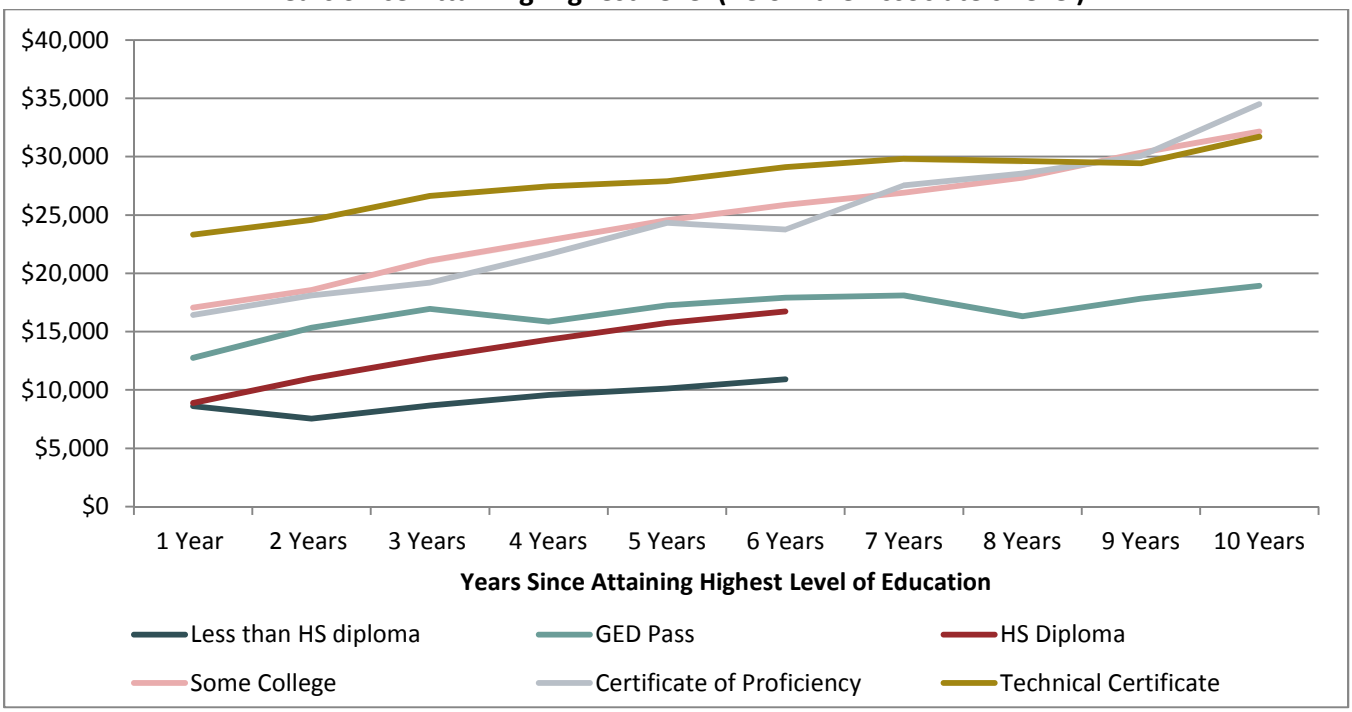


Figure 1.12: Average Wages in 2012 by Highest Level of Education Attained and Years Since Attaining Highest Level (Below the Associate's Level)



MEDIAN WAGES IN 2012 BY HIGHEST EDUCATION LEVEL

Figures 1.13a and 1.13b display median wages in 2012 for each education level, segmented by the number of years elapsed since each individual's achievement of their highest level of education. Note that data for JDs and MDs are once again reported separately.

Figure 1.13a: Median Wages in 2012 by Highest Level of Education Attained ("Recent Attainers")

YEARS SINCE ATTAINMENT OF HIGHEST EDUCATION LEVEL *(YEAR OF ATTAINMENT)*	1 YEAR *(2011)*	2 YEARS *(2010)*	3 YEARS *(2009)*	4 YEARS *(2008)*	5 YEARS *(2007)*
Education Level					
Less than HS diploma	$4,445	$4,848	$5,790	$6,338	$6,822
GED Pass	$9,108	$11,908	$13,642	$12,822	$15,456
HS Diploma	$6,864	$9,101	$10,623	$12,324	$13,763
Some College	$13,632	$15,282	$17,358	$18,814	$20,587
Certificate of Proficiency	$12,912	$14,820	$14,976	$17,843	$20,017
Technical Certificate	$22,890	$24,110	$26,462	$27,199	$27,603
Associate's Degree	$17,732	$21,654	$24,159	$27,603	$27,341
Bachelor's Degree	$29,590	$32,429	$33,995	$36,285	$38,385
Master's Degree	$44,006	$46,268	$47,792	$48,643	$50,012
Post Master's Certificate	$57,018	$55,989	$62,466	$60,049	$64,005
Doctoral 1st Professional Degree – JD	$39,325	$42,712	$44,180	$52,527	$51,167
Doctoral 1st Professional Degree – MD	$70,399	$72,716	$95,552	$114,106	$124,046
Doctor's Degree – Research (PhD)	$53,803	$55,073	$59,031	$59,858	$63,358

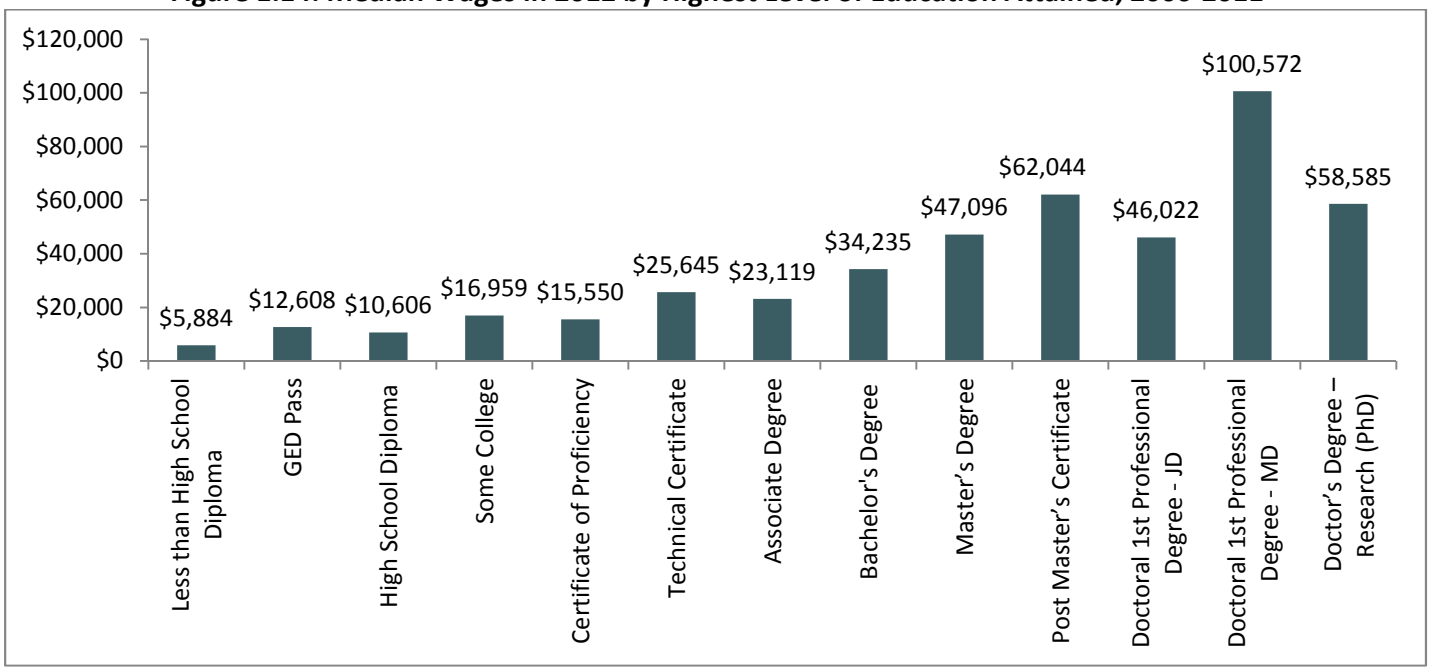
Figure 1.13b: Median Wages in 2012 by Highest Level of Education Attained ("Past Attainers")

YEARS SINCE ATTAINMENT OF HIGHEST EDUCATION LEVEL *(YEAR OF ATTAINMENT)*	6 YEARS *(2006)*	7 YEARS *(2005)*	8 YEARS *(2004)*	9 YEARS *(2003)*	10 YEARS *(2002)*
Education Level					
Less than HS diploma	$7,545	-	-	-	-
GED Pass	$14,875	$14,584	$12,592	$14,330	$15,463
HS Diploma	$14,423	-	-	-	-
Some College	$21,731	$22,886	$23,835	$25,372	$27,011
Certificate of Proficiency	$20,880	$23,412	$23,216	$24,630	$29,790
Technical Certificate	$28,643	$29,490	$28,974	$28,327	$30,337
Associate's Degree	$28,362	$30,144	$29,412	$31,406	$33,092
Bachelor's Degree	$38,595	$41,147	$42,263	$43,062	$44,028
Master's Degree	$50,472	$50,755	$52,791	$52,803	$55,035
Post Master's Certificate	$67,680	$59,232	$72,288	$69,392	$50,150
Doctoral 1st Professional Degree – JD	$48,801	$52,700	$53,301	$62,846	$63,399
Doctoral 1st Professional Degree – MD	$126,048	$127,459	$137,388	$139,509	$138,395
Doctor's Degree – Research (PhD)	$62,944	$66,844	$70,307	$64,810	$67,502

Median Wage Trends by Highest Education Level

Figure 1.14 illustrates that, as with mean wages, higher levels of education are linked to higher median wages in 2012, with the highest wages being earned by individuals holding post master's certificates, MDs, and research doctoral degrees.

Figure 1.14: Median Wages in 2012 by Highest Level of Education Attained, 2006-2011



Further, similar to the trends observed with average wages, median wages increase as the time elapsed since an individual has attained his or her highest level of education increases. Once again, this suggests that individuals with more experience earn higher wages. Figures 1.15a and 1.15b display median wages by highest level of education attained and the year of attainment. (Note that the scales of the figures are different to accommodate the difference in average wages for each educational category).

Figure 1.15a: Median Wages in 2012 by Highest Level of Education Attained and Years Since Attaining Highest Level (Associate's Level and Above)

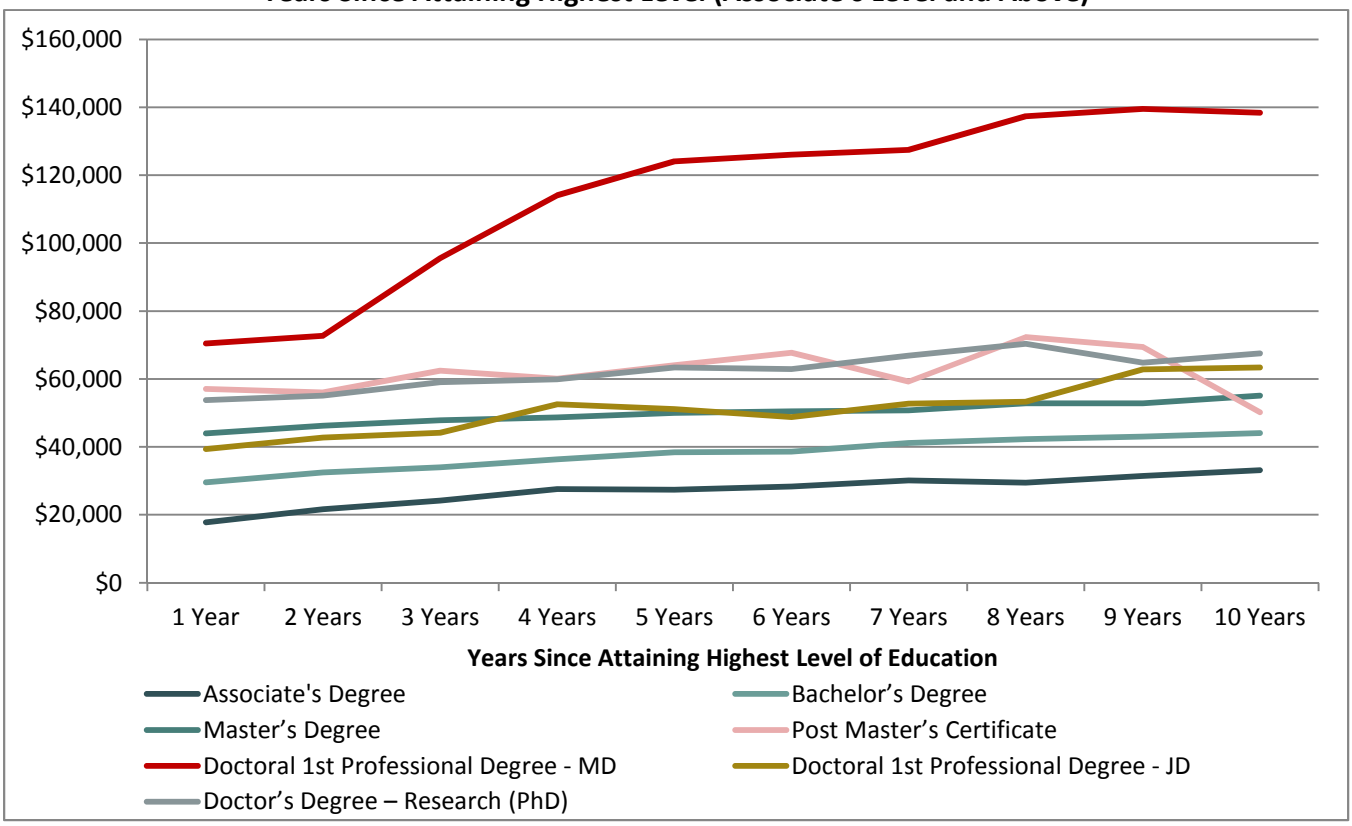
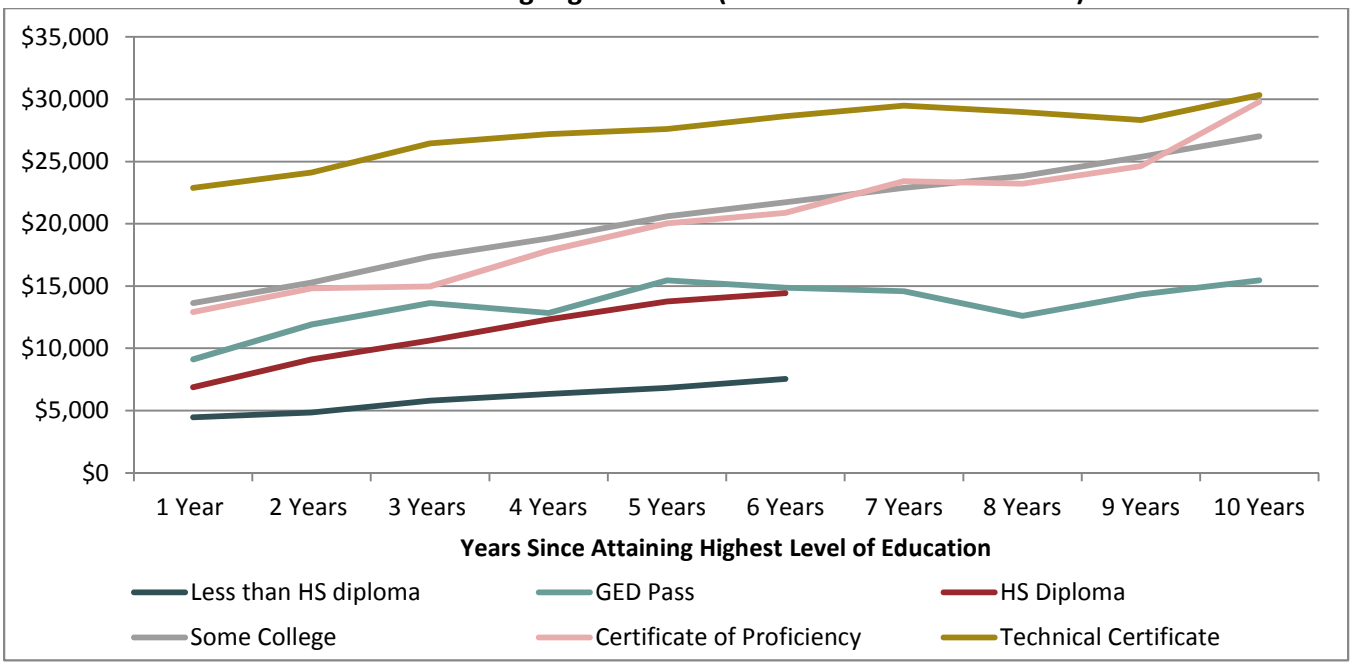


Figure 1.15b: Median Wages in 2012 by Highest Level of Education Attained and Years Since Attaining Highest Level (Below the Associate's Level)



ARKANSAS EMPLOYMENT STATUS AND WAGE OUTCOMES BY HIGHEST EDUCATION LEVEL

Figure 1.16a: 2012 Arkansas Employment Status and Wage Outcomes by Highest Level of Education Attained ("Recent Attainers")

YEARS SINCE ATTAINMENT OF HIGHEST EDUCATION LEVEL *(YEAR OF ATTAINMENT)*		1 YEAR *(2011)*	2 YEARS *(2010)*	3 YEARS *(2009)*	4 YEARS *(2008)*	5 YEARS *(2007)*
Less than High School Diploma	Individuals	11,507	11,903	14,189	15,159	16,653
	Share Employed in Arkansas	28.2%	28.4%	26.7%	23.9%	20.0%
	Avg. Quarters Worked	2.68	2.70	2.78	2.83	2.83
	Mean Wage	$8,622	$7,545	$8,680	$9,566	$10,117
	Median Wage	$4,445	$4,848	$5,790	$6,338	$6,822
High School Diploma	Individuals	14,735	13,701	13,430	13,830	13,109
	Share Employed in Arkansas	52.0%	50.9%	50.3%	48.3%	45.4%
	Avg. Quarters Worked	2.94	3.08	3.15	3.20	3.22
	Mean Wage	$8,893	$10,999	$12,742	$14,319	$15,743
	Median Wage	$6,864	$9,101	$10,623	$12,324	$13,763
GED Pass	Individuals	2,695	2,588	2,327	2,622	2,429
	Share Employed in Arkansas	43.3%	42.4%	42.6%	39.5%	38.8%
	Avg. Quarters Worked	2.89	3.13	3.14	3.08	3.19
	Mean Wage	$12,741	$15,346	$16,947	$15,848	$17,247
	Median Wage	$9,108	$11,908	$13,642	$12,822	$15,456
Some College	Individuals	33,457	29,199	25,116	24,805	23,846
	Share Employed in Arkansas	59.7%	54.9%	50.9%	49.2%	47.2%
	Avg. Quarters Worked	3.29	3.32	3.38	3.40	3.45
	Mean Wage	$17,063	$18,564	$21,100	$22,832	$24,540
	Median Wage	$13,632	$15,282	$17,358	$18,814	$20,587
Certificate of Proficiency	Individuals	2,838	2,671	2,410	2,123	1,765
	Share Employed in Arkansas	74.3%	71.2%	66.1%	55.0%	47.4%
	Avg. Quarters Worked	3.30	3.39	3.35	3.44	3.45
	Mean Wage	$16,428	$18,111	$19,198	$21,644	$24,320
	Median Wage	$12,912	$14,820	$14,976	$17,843	$20,017
Technical Certificate	Individuals	2,326	2,064	1,743	1,615	1,489
	Share Employed in Arkansas	80.7%	78.7%	74.7%	77.2%	73.4%
	Avg. Quarters Worked	3.54	3.56	3.63	3.65	3.63
	Mean Wage	$23,316	$24,569	$26,620	$27,444	$27,886
	Median Wage	$22,890	$24,110	$26,462	$27,199	$27,603
Associate's Degree	Individuals	7,043	4,885	4,109	3,313	3,431
	Share Employed in Arkansas	74.8%	75.1%	73.9%	69.7%	67.8%
	Avg. Quarters Worked	3.50	3.57	3.59	3.62	3.66
	Mean Wage	$22,016	$24,893	$27,412	$30,261	$30,876
	Median Wage	$17,732	$21,654	$24,159	$27,603	$27,341

Years Since Attainment of Highest Education Level *(Year of Attainment)*		1 Year *(2011)*	2 Years *(2010)*	3 Years *(2009)*	4 Years *(2008)*	5 Years *(2007)*
Bachelor's Degree	Individuals	14,568	12,614	11,451	10,972	10,982
	Share Employed in Arkansas	62.3%	58.3%	55.4%	54.8%	51.7%
	Avg. Quarters Worked	3.56	3.61	3.60	3.63	3.66
	Mean Wage	$31,352	$34,069	$35,988	$38,960	$41,513
	Median Wage	$29,590	$32,429	$33,995	$36,285	$38,385
Master's Degree	Individuals	5,116	4,070	3,519	3,291	2,951
	Share Employed in Arkansas	69.2%	67.3%	65.4%	61.1%	58.8%
	Avg. Quarters Worked	3.73	3.73	3.73	3.73	3.76
	Mean Wage	$46,477	$49,812	$51,687	$52,395	$54,373
	Median Wage	$44,006	$46,268	$47,792	$48,643	$50,012
Post Master's Certificate	Individuals	92	72	69	60	43
	Share Employed in Arkansas	77.2%	70.8%	76.8%	76.7%	67.4%
	Avg. Quarters Worked	3.83	3.59	3.77	3.78	3.52
	Mean Wage	$58,959	$56,133	$63,002	$63,617	$65,821
	Median Wage	$57,018	$55,989	$62,466	$60,049	$64,005
Doctoral 1st Professional Degree – JD	Individuals	249	255	227	230	257
	Share Employed in Arkansas	55.4%	54.5%	56.8%	52.6%	57.6%
	Avg. Quarters Worked	3.40	3.36	3.36	3.41	3.25
	Mean Wage	$38,065	$48,022	$49,279	$53,297	$54,056
	Median Wage	$39,325	$42,712	$44,180	$52,527	$51,167
Doctoral 1st Professional Degree – MD	Individuals	303	300	234	216	205
	Share Employed in Arkansas	61.4%	62.7%	62.0%	67.6%	61.0%
	Avg. Quarters Worked	3.82	3.89	3.75	3.71	3.56
	Mean Wage	$82,428	$82,830	$89,295	$110,734	$128,715
	Median Wage	$70,399	$72,716	$95,552	$114,106	$124,046
Doctor's Degree – Research (PhD)	Individuals	254	233	298	234	223
	Share Employed in Arkansas	49.2%	45.5%	42.3%	33.3%	46.6%
	Avg. Quarters Worked	3.40	3.41	3.56	3.64	3.58
	Mean Wage	$52,254	$58,707	$58,681	$60,728	$68,443
	Median Wage	$53,803	$55,073	$59,031	$59,858	$63,358

Figure 1.16b: 2012 Arkansas Employment Status and Wage Outcomes by Highest Level of Education Attained ("Past Attainers")

Years Since Attainment of Highest Education Level *(Year of Attainment)*		6 Years *(2006)*	7 Years *(2005)*	8 Years *(2004)*	9 Years *(2003)*	10 Years *(2002)*
Less than High School Diploma	Individuals	18,527	--	--	--	--
	Share Employed in Arkansas	18.8%	--	--	--	--
	Avg. Quarters Worked	2.86	--	--	--	--
	Mean Wage	$10,924	--	--	--	--
	Median Wage	$7,545	--	--	--	--
High School Diploma	Individuals	12,968	--	--	--	--
	Share Employed in Arkansas	45.6%	--	--	--	--
	Avg. Quarters Worked	3.26	--	--	--	--
	Mean Wage	$16,741	--	--	--	--
	Median Wage	$14,423	--	--	--	--
GED Pass	Individuals	2,670	3,171	3,879	3,742	2,937
	Share Employed in Arkansas	39.2%	39.8%	44.1%	41.8%	40.5%
	Avg. Quarters Worked	3.19	3.16	3.12	3.17	3.20
	Mean Wage	$17,904	$18,114	$16,309	$17,822	$18,913
	Median Wage	$14,875	$14,584	$12,592	$14,330	$15,463
Some College	Individuals	23,692	22,412	21,912	20,823	19,600
	Share Employed in Arkansas	45.2%	45.4%	43.6%	41.3%	40.5%
	Avg. Quarters Worked	3.45	3.46	3.49	3.50	3.53
	Mean Wage	$25,878	$26,896	$28,208	$30,328	$32,159
	Median Wage	$21,731	$22,886	$23,835	$25,372	$27,011
Certificate of Proficiency	Individuals	1,776	1,456	1,545	1,422	1,442
	Share Employed in Arkansas	39.0%	37.4%	34.4%	40.4%	37.8%
	Avg. Quarters Worked	3.45	3.45	3.50	3.58	3.56
	Mean Wage	$23,764	$27,538	$28,566	$30,056	$34,505
	Median Wage	$20,880	$23,412	$23,216	$24,630	$29,790
Technical Certificate	Individuals	1,448	1,545	1,076	976	581
	Share Employed in Arkansas	71.2%	67.8%	67.4%	63.7%	58.9%
	Avg. Quarters Worked	3.62	3.59	3.66	3.66	3.65
	Mean Wage	$29,104	$29,808	$29,619	$29,420	$31,701
	Median Wage	$28,643	$29,490	$28,974	$28,327	$30,337
Associate's Degree	Individuals	3,094	2,917	2,738	2,514	2,288
	Share Employed in Arkansas	69.1%	65.2%	63.5%	62.1%	60.0%
	Avg. Quarters Worked	3.66	3.65	3.66	3.68	3.72
	Mean Wage	$32,170	$32,928	$33,099	$35,387	$35,901
	Median Wage	$28,362	$30,144	$29,412	$31,406	$33,092
Bachelor's Degree	Individuals	10,347	9,842	9,543	9,139	8,649
	Share Employed in Arkansas	50.4%	49.9%	46.9%	45.8%	44.9%
	Avg. Quarters Worked	3.63	3.66	3.63	3.65	3.65

Years Since Attainment of Highest Education Level *(Year of Attainment)*		6 Years *(2006)*	7 Years *(2005)*	8 Years *(2004)*	9 Years *(2003)*	10 Years *(2002)*
	Mean Wage	$42,673	$45,779	$47,451	$48,832	$50,781
	Median Wage	$38,595	$41,147	$42,263	$43,062	$44,028
Master's Degree	Individuals	2,718	2,501	2,217	2,037	2,040
	Share Employed in Arkansas	56.5%	53.1%	49.8%	50.7%	51.2%
	Avg. Quarters Worked	3.74	3.73	3.72	3.73	3.70
	Mean Wage	$54,666	$55,838	$58,561	$58,859	$60,499
	Median Wage	$50,472	$50,755	$52,791	$52,803	$55,035
Post Master's Certificate	Individuals	43	50	19	26	24
	Share Employed in Arkansas	78.0%	68.4%	69.2%	62.5%	50.0%
	Avg. Quarters Worked	3.90	3.69	3.83	3.73	3.56
	Mean Wage	$67,211	$62,298	$65,162	$62,418	$51,995
	Median Wage	$67,680	$59,232	$72,288	$69,392	$50,150
Doctoral 1st Professional Degree – JD	Individuals	269	248	215	186	204
	Share Employed in Arkansas	52.8%	52.8%	48.4%	53.2%	47.1%
	Avg. Quarters Worked	3.35	3.36	3.28	3.45	3.36
	Mean Wage	$56,159	$60,604	$66,452	$84,547	$78,148
	Median Wage	$48,801	$52,700	$53,301	$62,846	$63,399
Doctoral 1st Professional Degree - MD	Individuals	202	199	206	199	207
	Share Employed in Arkansas	69.3%	63.8%	62.1%	59.3%	61.4%
	Avg. Quarters Worked	3.65	3.79	3.77	3.75	3.73
	Mean Wage	$151,857	$171,969	$166,621	$203,121	$216,145
	Median Wage	$126,048	$127,459	$137,388	$139,509	$138,395
Doctor's Degree – Research (PhD)	Individuals	216	238	215	176	163
	Share Employed in Arkansas	39.4%	38.7%	43.3%	31.8%	38.7%
	Avg. Quarters Worked	3.64	3.64	3.62	3.59	3.73
	Mean Wage	$68,983	$69,332	$74,942	$76,714	$76,927
	Median Wage	$62,944	$66,844	$70,307	$64,810	$67,502

SOME COLLEGE – INVESTIGATION INTO THE CHARACTERISTICS OF INDIVIDUALS WITH PARTIAL COLLEGE EDUCATION ATTAINMENT

From Figure 1.3a, we observed that individuals whose highest level of educational attainment was "some college" represented the largest single education group in the data, accounting for approximately 35 percent of our dataset in 2011. In this section, we analyze this segment in greater detail.

Figure 1.17 displays the number of individuals who are categorized as having some college attainment by year. Observe that the majority of individuals who leave after only completing some college do so in their freshman year.

Figure 1.17: Number of Individuals with "Some College" Attainment by Highest Level of College Education and Year of Attainment , 2002-2011

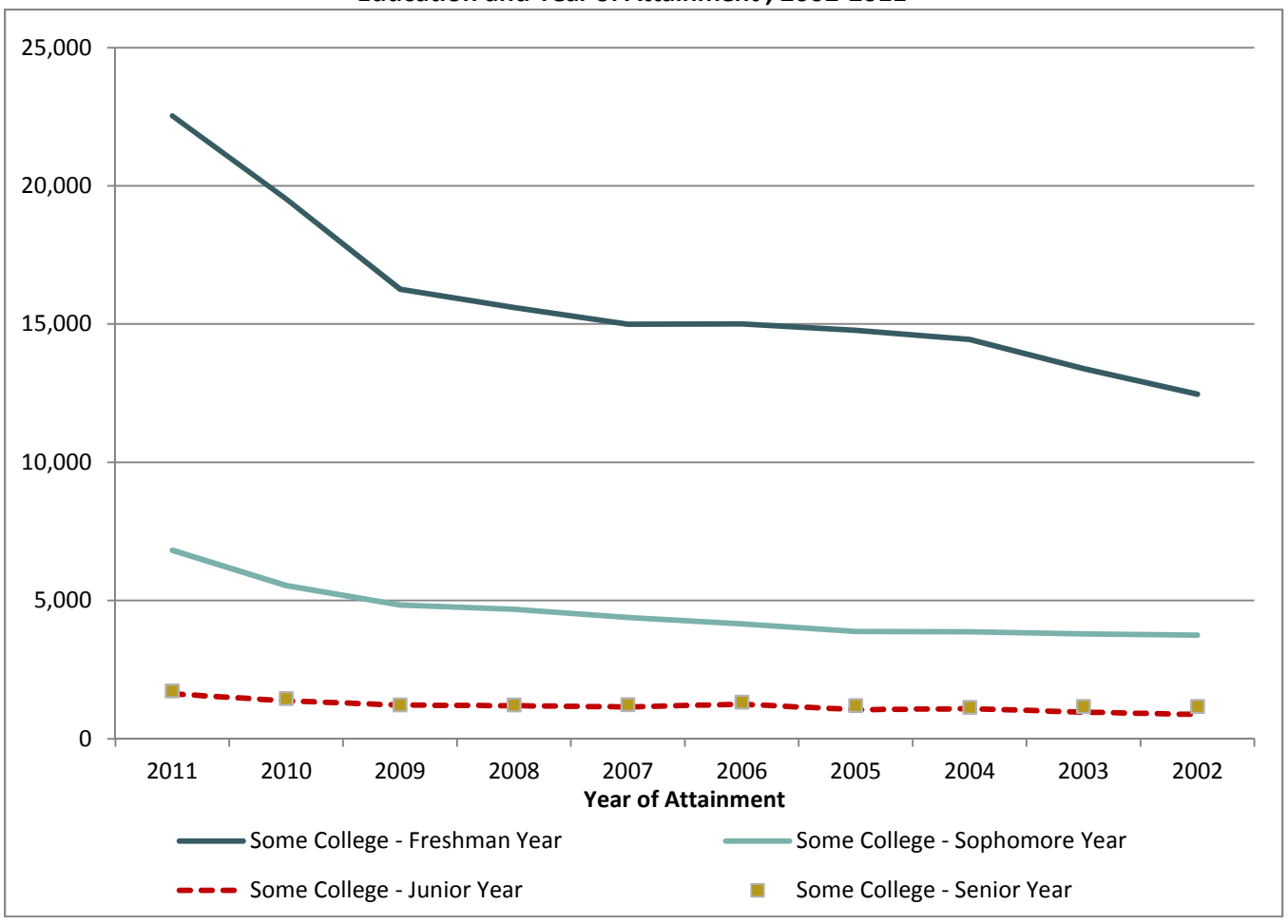


Figure 1.18 depicts the share of individuals having attained only some college by level of college education (i.e., freshman, sophomore, junior, or senior) for 2011. We observe that 69 percent of the students who only complete some college leave after their freshman year. The second most common year to leave is the sophomore year (21 percent). It appears that by the time students reach their junior or senior year, they usually are able to graduate.

Figure 1.18: Highest Level of "Some College" Attainment in 2011 (N=32,700)

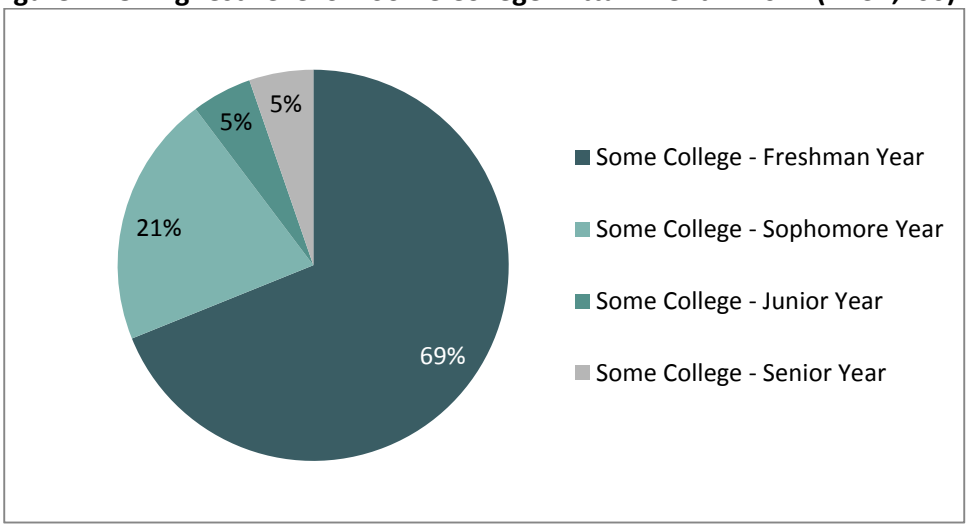
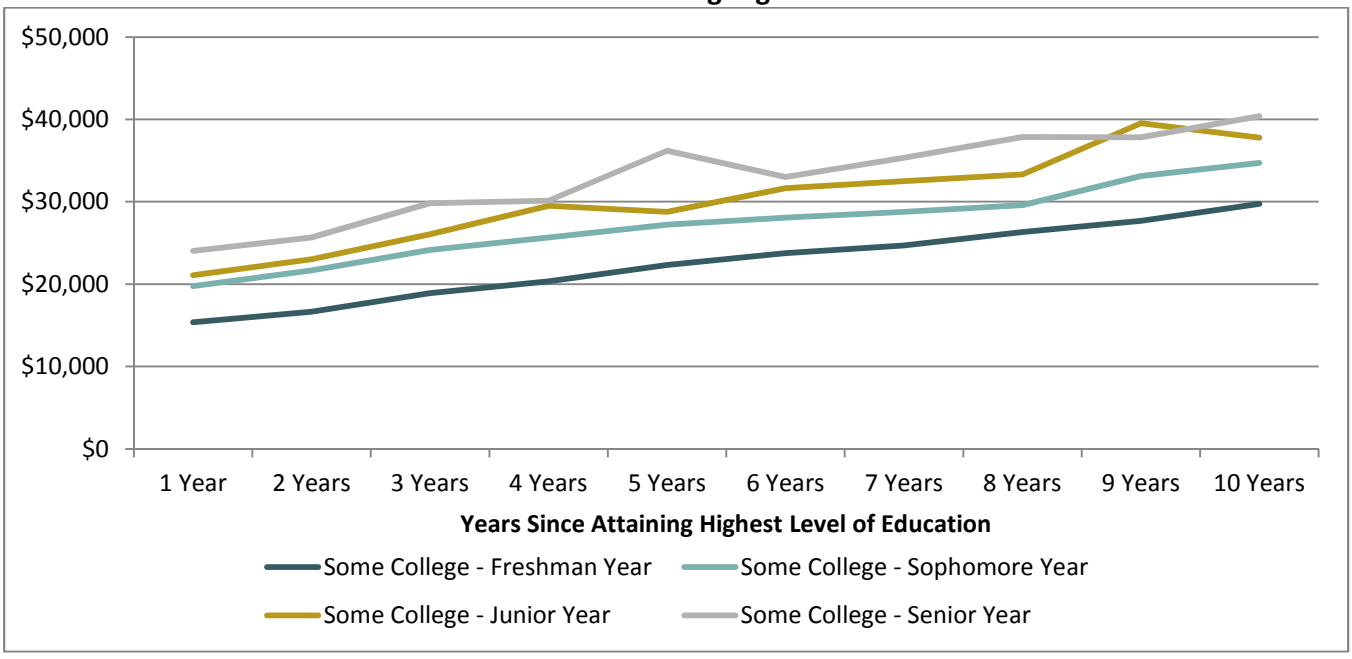


Figure 1.19 displays the average wage of individuals with some college attainment by level of college education (i.e., freshman, sophomore, junior, or senior) and years since reaching their highest level of attainment. We observe that students who finish additional years of college earn more than students who complete fewer years. For example, individuals who only complete their freshman year consistently have a lower average wage compared to individuals who finish their sophomore year.

Figure 1.19: Average Wages in 2012 by Highest Level of "Some College" Attainment and Years Since Attaining Highest Level



Focusing on the slopes of each trend line in Figure 1.19 above, we also observe that for all levels of college education, each additional year of experience (i.e., each additional year since leaving college) is rewarded by approximately the same amount in average wages. For example, an individual who only completed her sophomore year and is now one year out of college, earns $19,769 annually on average, while an individual with the same level of education who is *two* years out earns $21,670 (an increase of roughly $1,900). An individual who completed her junior year and is now one year out of college earns $21,085 annually on average, while an individual with the same education who is two years out earns $23,037 (an increase of roughly $1,950). Figure 1.20 displays the *average* increase in wages for each additional year of experience (i.e., each additional year since attaining highest level of education) for the four levels of "some college" attainment.

Figure 1.20: Growth in Average Wages for Each Additional Year of Experience[3]

Level of "Some College" Attainment	Mean Growth in Average Wages
Some College - Freshman Year	$1,563
Some College - Sophomore Year	$1,526
Some College - Junior Year	$1,903
Some College - Senior Year	$1,726

Figure 1.21 displays the median wage of individuals with some college attainment by level of college education (i.e., freshman, sophomore, junior, or senior) and years since reaching their highest level of attainment. The main takeaways from this chart are similar to the findings with respect to average wages. Consistent with the previous findings, we see that individuals who have completed more college (e.g., through their senior year) earn higher wages than those who have completed less college (e.g., through their freshman year).

Further, as shown in Figure 1.22, the increase in median wages associated with each additional year of experience (i.e., each additional year since leaving college) is roughly the same across each level of education. In particular, for individuals whose highest level of "some college" education is equivalent to their freshman, sophomore, or senior year, each additional year of experience is associated with a roughly $1,380 increase in median wages.[4]

[3] Each number in this table represents the slope of the line in Figure 1.19

[4] Note that the mean gain is slightly lower for median wages compared to average wages. This is expected because median is a less sensitive measure to extreme values.

Figure 1.21: Median Wages in 2012 by Highest Level of "Some College" Attainment and Years Since Attaining Highest Level

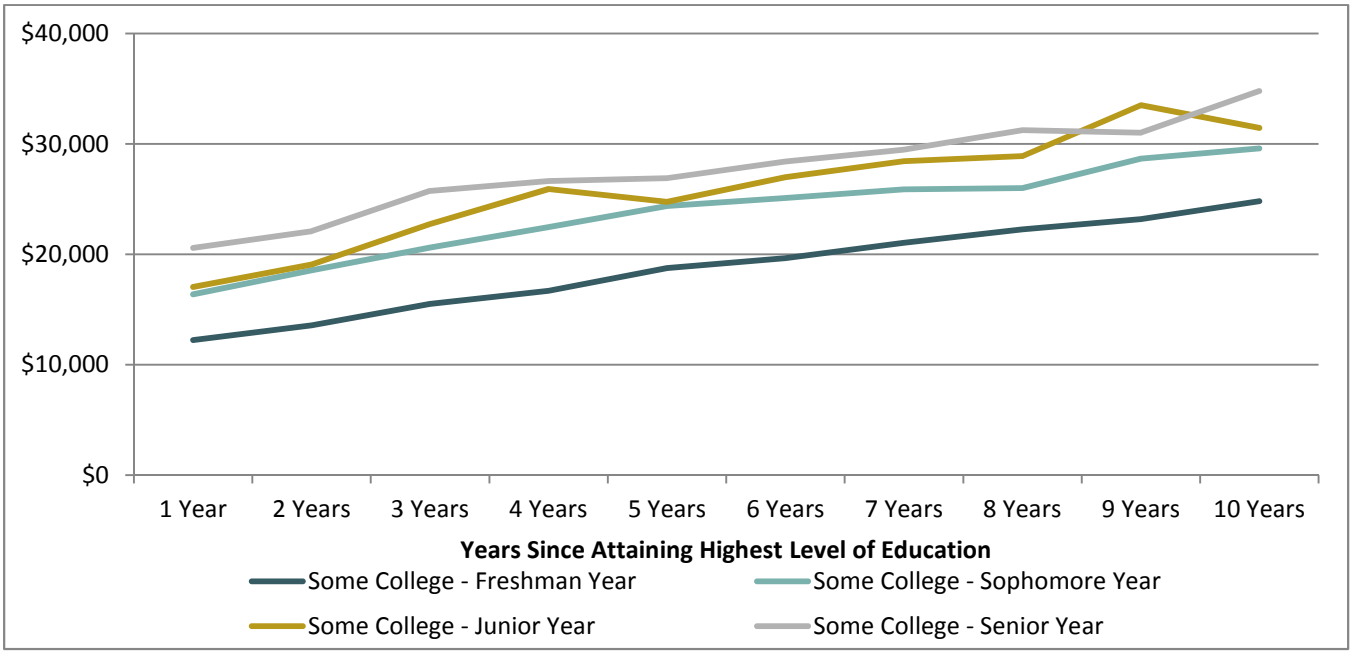


Figure 1.22: Growth in Median Wages for Each Additional Year of Experience[5]

Level of "Some College" Attainment	Mean Growth in Median Wages
Some College - Freshman Year	$1,384
Some College - Sophomore Year	$1,380
Some College - Junior Year	$1,645
Some College - Senior Year	$1,381

Comparing Associate's Degree Attainment with Some College

Figures 1.23 and 1.24 replicate the mean and median wage charts from above, adding in the data for associate's degree holders. Since the associate's degree is based on completion of two years of college, one could expect that the average wages for associate's degree holders to be near those who have completed the sophomore year of college. However, we find that in general, *associate's degree holders can expect to earn more than individuals who have completed some college, except those who have attended their senior year.* In particular, we observe that for the first few years after college, an associate's degree graduate typically earns more than someone who has completed their junior year, despite having one less year of college education. *Thus, our analysis suggests that there is a premium for degree completion in Arkansas.*

[5] Each number in this table represents the slope of the line in Figure 1.21

Figure 1.23: Average Wages in 2012 by Highest Level of "Some College" Attainment, Associate's Degree Attainment, and Years Since Attaining Highest Level

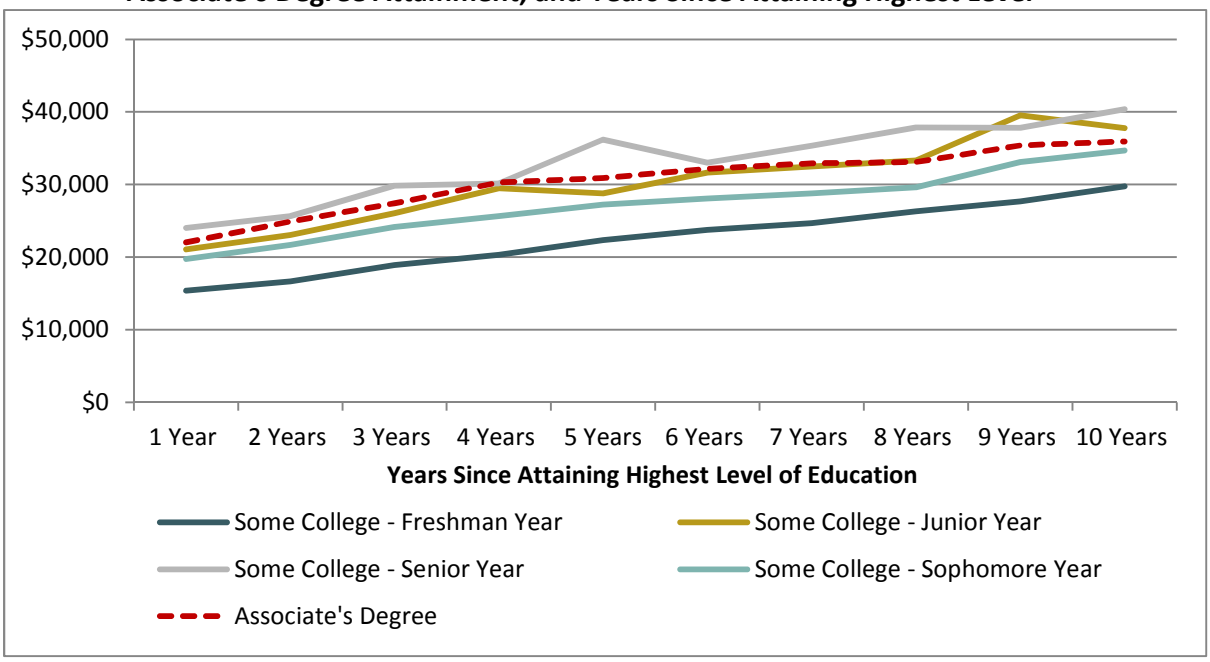
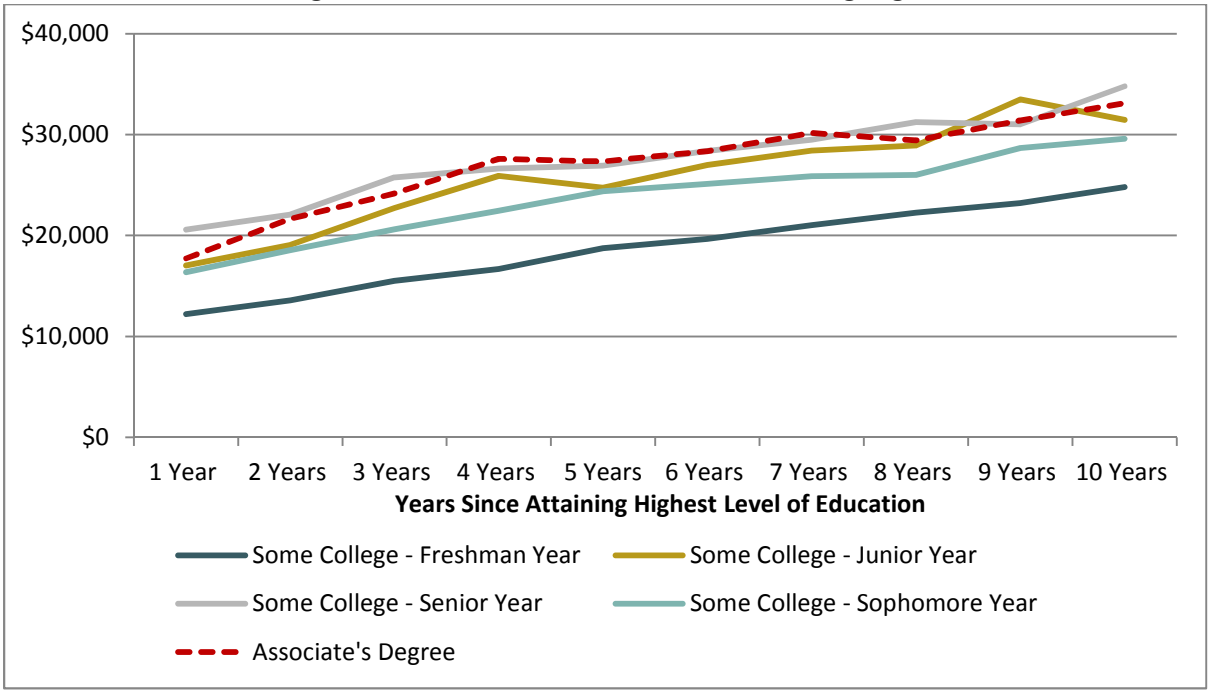


Figure 1.24: Median Wages in 2012 by Highest Level of "Some College" Attainment, Associate's Degree Attainment, and Years Since Attaining Highest Level



SECTION II: CHANGES IN MEDIAN WAGES

DATA

This section employs the same data described in Section I, with a focus on level of educational attainment and median wages.

PERCENTAGE INCREASE IN MEDIAN WAGES

Figure 2.1 shows the percentage increase in median wages by education level over time. For example, associate's degree graduates with two years since they earned their degrees make 22.1 percent more than graduates with only one year since earning their degrees.

Figure 2.1: Percentage Increase in Median Wages by Highest Level of Education Attained and Year of Attainment, 2002-2011

Years Since Attainment of Highest Education Level (Year of Attainment)	1 Year (2011)	2 Years (2010)	3 Years (2009)	4 Years (2008)	5 Years (2007)	6 Years (2006)	7 Years (2005)	8 Years (2004)	9 Years (2003)	10 Years (2002)	
Education Level											
Less than HS diploma	*$4,445*	9.1%	30.2%	42.6%	53.5%	69.7%	-	-	-	-	-
HS Diploma	*$6,864*	32.6%	54.8%	79.6%	100.5%	110.1%	-	-	-	-	-
GED Pass	*$9,108*	30.7%	49.8%	40.8%	69.7%	63.3%	60.1%	38.3%	57.3%	69.8%	*$15,463*
Some College	*$13,632*	12.1%	27.3%	38.0%	51.0%	59.4%	67.9%	74.8%	86.1%	98.1%	*$27,011*
Certificate of Proficiency	*$12,912*	14.8%	16.0%	38.2%	55.0%	61.7%	81.3%	79.8%	90.7%	130.7%	*$29,790*
Technical Certificate	*$22,890*	5.3%	15.6%	18.8%	20.6%	25.1%	28.8%	26.6%	23.8%	32.5%	*$30,337*
Associate's Degree	*$17,732*	22.1%	36.2%	55.7%	54.2%	59.9%	70.0%	65.9%	77.1%	86.6%	*$33,092*
Bachelor's Degree	*$29,590*	9.6%	14.9%	22.6%	29.7%	30.4%	39.1%	42.8%	45.5%	48.8%	*$44,028*
Master's Degree	*$44,006*	5.1%	8.6%	10.5%	13.6%	14.7%	15.3%	20.0%	20.0%	25.1%	*$55,035*
Post Master's Certificate[6]	*$57,018*	-1.8%	9.6%	5.3%	12.3%	18.7%	3.9%	26.8%	21.7%	-12.0%	*$50,150*
Doctoral 1st Professional Degree – JD	*$39,325*	8.6%	12.3%	33.6%	30.1%	24.1%	34.0%	35.5%	59.8%	61.2%	*$63,399*
Doctoral 1st Professional Degree – MD	*$70,399*	3.3%	35.7%	62.1%	76.2%	79.0%	81.1%	95.2%	98.2%	96.6%	*$138,395*
Doctor's Degree – Research (PhD)	*$53,803*	2.4%	9.7%	11.3%	17.8%	17.0%	24.2%	30.7%	20.5%	25.5%	*$67,502*

PERCENTAGE DIFFERENCE IN MEDIAN WAGES

Figure 2.2 displays median income by highest education level in comparison to bachelor's degree-holders. The values in the table represent the proportion of a bachelor's graduate's median wages that an individual with another degree earns. For example, after two years, an individual with a high school degree earns 28.1 percent of what an individual with a bachelor's degree earns. Values less than 100 percent represent median wages less than those of a bachelor's graduate, while values over 100 percent signify median wages that are greater than those of a bachelor's graduate.

[6] Note that the post master's certificate is a relatively small category. The observed decline in median wages among individuals two years and 10 years since attaining their certificate should therefore be interpreted with caution.

Figure 2.2: Percentage Difference in Median Wages versus Bachelor's Recipients by Highest Level of Education Attained and Year of Attainment, 2002-2011

Years Since Attainment of Highest Education Level (Year of Attainment)	1 Year (2011)	2 Years (2010)	3 Years (2009)	4 Years (2008)	5 Years (2007)	6 Years (2006)	7 Years (2005)	8 Years (2004)	9 Years (2003)	10 Years (2002)
Education Level										
Less than HS diploma	15.0%	14.9%	17.0%	17.5%	17.8%	19.5%	-	-	-	-
HS Diploma	23.2%	28.1%	31.2%	34.0%	35.9%	37.4%	-	-	-	-
GED Pass	30.8%	36.7%	40.1%	35.3%	40.3%	38.5%	35.4%	29.8%	33.3%	35.1%
Some College	46.1%	47.1%	51.1%	51.9%	53.6%	56.3%	55.6%	56.4%	58.9%	61.3%
Certificate of Proficiency	43.6%	45.7%	44.1%	49.2%	52.1%	54.1%	56.9%	54.9%	57.2%	67.7%
Technical Certificate	77.4%	74.3%	77.8%	75.0%	71.9%	74.2%	71.7%	68.6%	65.8%	68.9%
Associate's Degree	59.9%	66.8%	71.1%	76.1%	71.2%	73.5%	73.3%	69.6%	72.9%	75.2%
Bachelor's Degree	**$29,590**	**$32,429**	**$33,995**	**$36,285**	**$38,385**	**$38,595**	**$41,147**	**$42,263**	**$43,062**	**$44,028**
Master's Degree	148.7%	142.7%	140.6%	134.1%	130.3%	130.8%	123.4%	124.9%	122.6%	125.0%
Post Master's Certificate	192.7%	172.7%	183.8%	165.5%	166.7%	175.4%	144.0%	171.0%	161.1%	113.9%
Doctoral 1st Professional Degree – JD	132.9%	131.7%	130.0%	144.8%	133.3%	126.4%	128.1%	126.1%	145.9%	144.0%
Doctoral 1st Professional Degree – MD	237.9%	224.2%	281.1%	314.5%	323.2%	326.6%	309.8%	325.1%	324.0%	314.3%
Doctor's Degree – Research (PhD)	181.8%	169.8%	173.6%	165.0%	165.1%	163.1%	162.5%	166.4%	150.5%	153.3%

SECTION III: EMPLOYMENT AND WAGE OUTCOMES BY CREDENTIAL AND CIP CODE

DATA

This section combines all *postsecondary graduates* from 2002 through 2011, and compares their employment outcomes in 2012 by academic program, represented by Classification of Instructional Program (CIP) codes.[7] There are a total of 216,832 individuals identified in the data who attained their highest degree (certificate of proficiency or above) between 2002 and 2011. Of these, 192,166 individuals have identifiable CIP codes. Figure 3.1 displays the number of individuals in each educational attainment category between 2002 and 2011, segmented by whether there is an identified CIP code. Observe that the four lowest educational categories – "less than high school diploma," "GED pass," "high school diploma," and "some college" – are excluded from this analysis, as the CIP code system is typically used to track postsecondary educational programs.

Furthermore, observe that there are a number of individuals whose CIP codes are not identified at the bachelor's degree level and the master's degree level. There are two reasons for our inability to identify the degree field for these individuals. First, if these individuals completed their bachelor's or master's degree in a different state and subsequently came to Arkansas for further education, then the data will provide an indicator for a completed bachelor's or master's degree but *not* for the specific field of study. A second possibility is if an individual completed a degree prior to the dates in the study data and then started a subsequent degree within our study period; in these cases, even if the first degree was completed in Arkansas, we will only have an indicator for the completed degree, but not details on the field in which the degree was completed.

[7] The National Center for Education Statistics designed the Classification of Instructional Program (CIP) codes "to provide a taxonomic scheme that will support the accurate tracking, assessment, and reporting of fields of study and program completions activity." See: http://www.umsl.edu/services/academic/curriculum/program_change_cip.html

Figure 3.1: Highest Degree Outcomes (2002-2011)
Segmented by CIP Code Identification Status

Highest Degree	CIP Code Identified	CIP Code Not Identified	% Identified	Total
Doctoral 1st Professional	4,839	46	99%	4,885
Doctor's Degree – Research	2,212	38	98%	2,250
Post Master's Certificate	434	53	89%	487
Master's Degree	28,612	1,848	94%	30,460
Bachelor's Degree	85,426	22,681	79%	108,107
Associate Degree	36,332	0	100%	36,332
Technical Certificate	14,863	0	100%	14,863
Certificate of Proficiency	19,448	0	100%	19,448
Total	**192,166**	**24,666**	**89%**	**216,832**

EMPLOYMENT OUTCOMES BY CREDENTIAL AND PROGRAM

Figures 3.2 through 3.9 display the count and percentage of individuals employed/not employed *in Arkansas* in non-U.S. government jobs in 2012 for each credential, segmented by CIP code. Note that CIP categories containing less than 10 individuals have been redacted and combined into an "All Others" category in the following figures.

Figure 3.2: Certificate of Proficiency Graduates 2002 through 2011: Employment Status in 2012

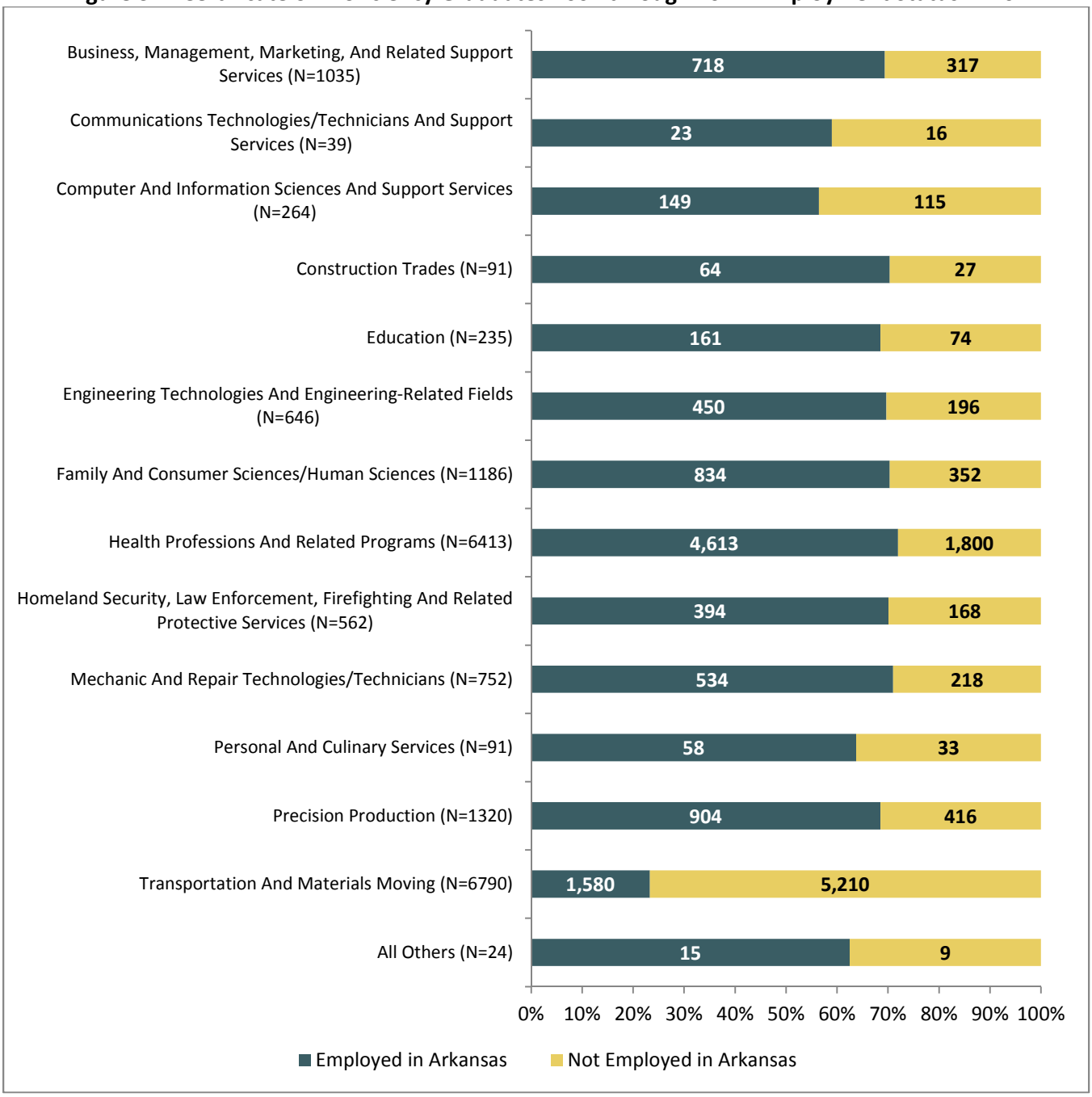


Figure 3.3: Technical Certificate Graduates 2002 through 2011: Employment Status in 2012

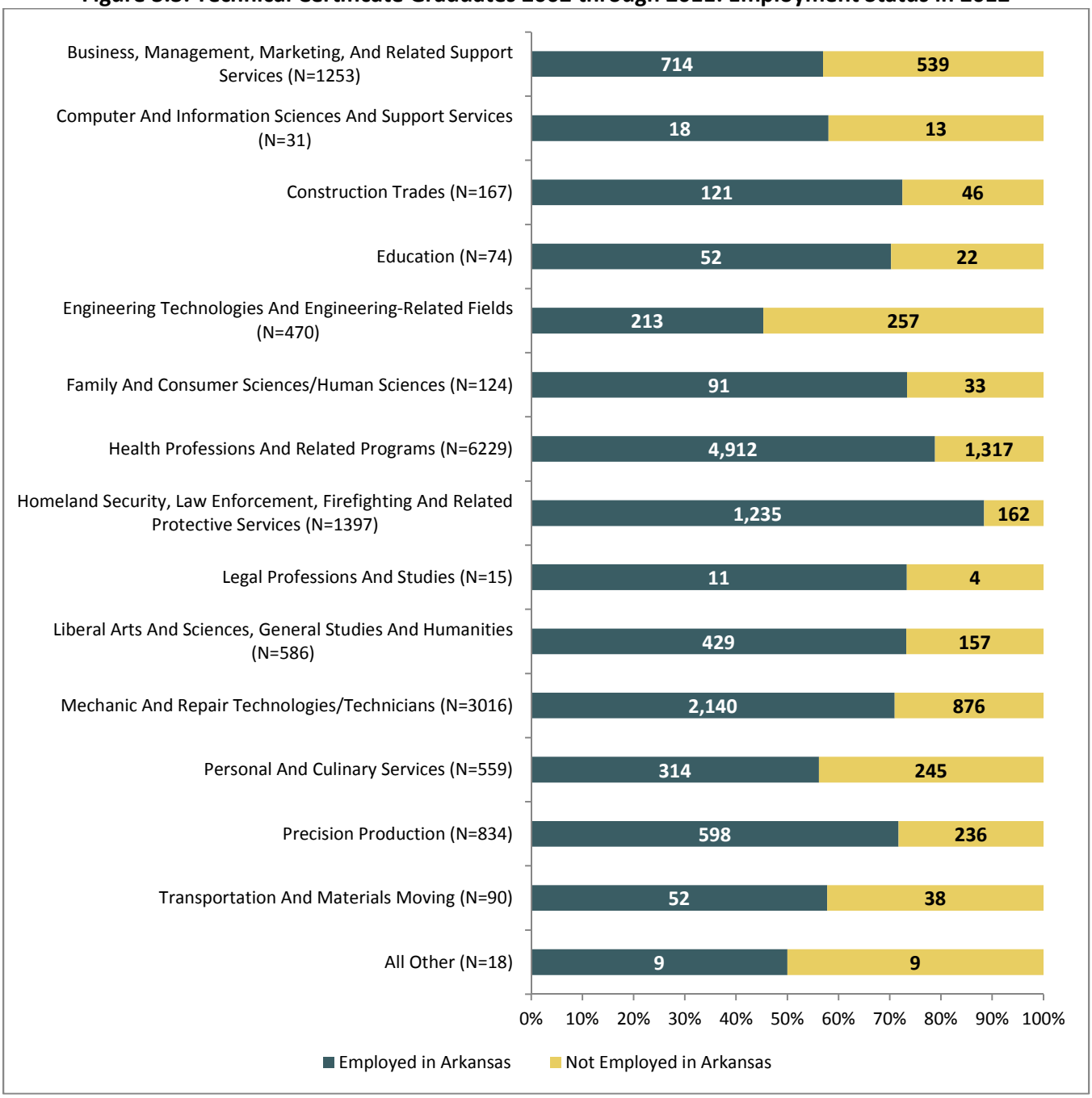


Figure 3.4: Associate's Degree Graduates 2002 through 2011: Employment Status in 2012

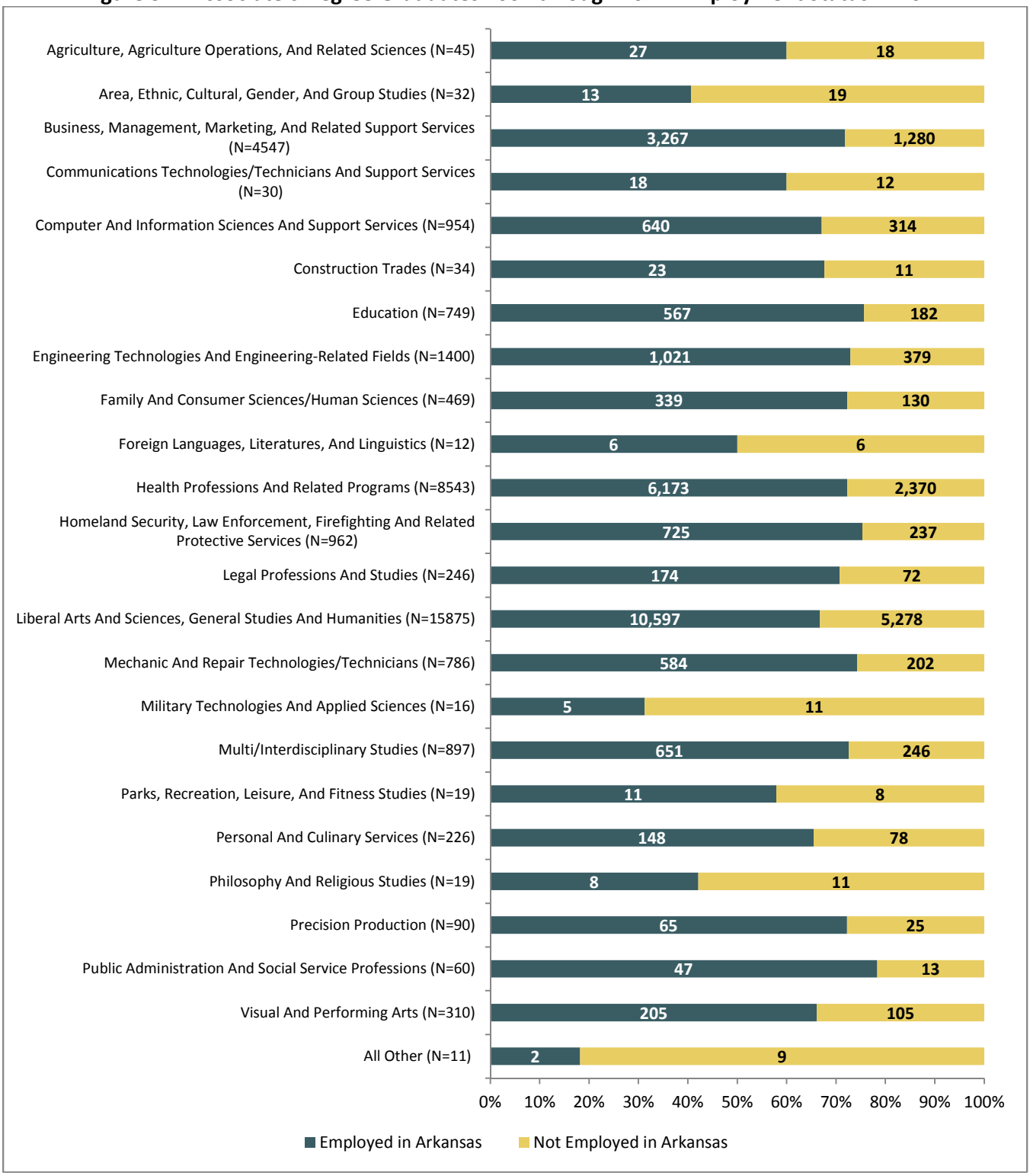


Figure 3.5: Bachelor's Degree Graduates 2002 through 2011: Employment Status in 2012

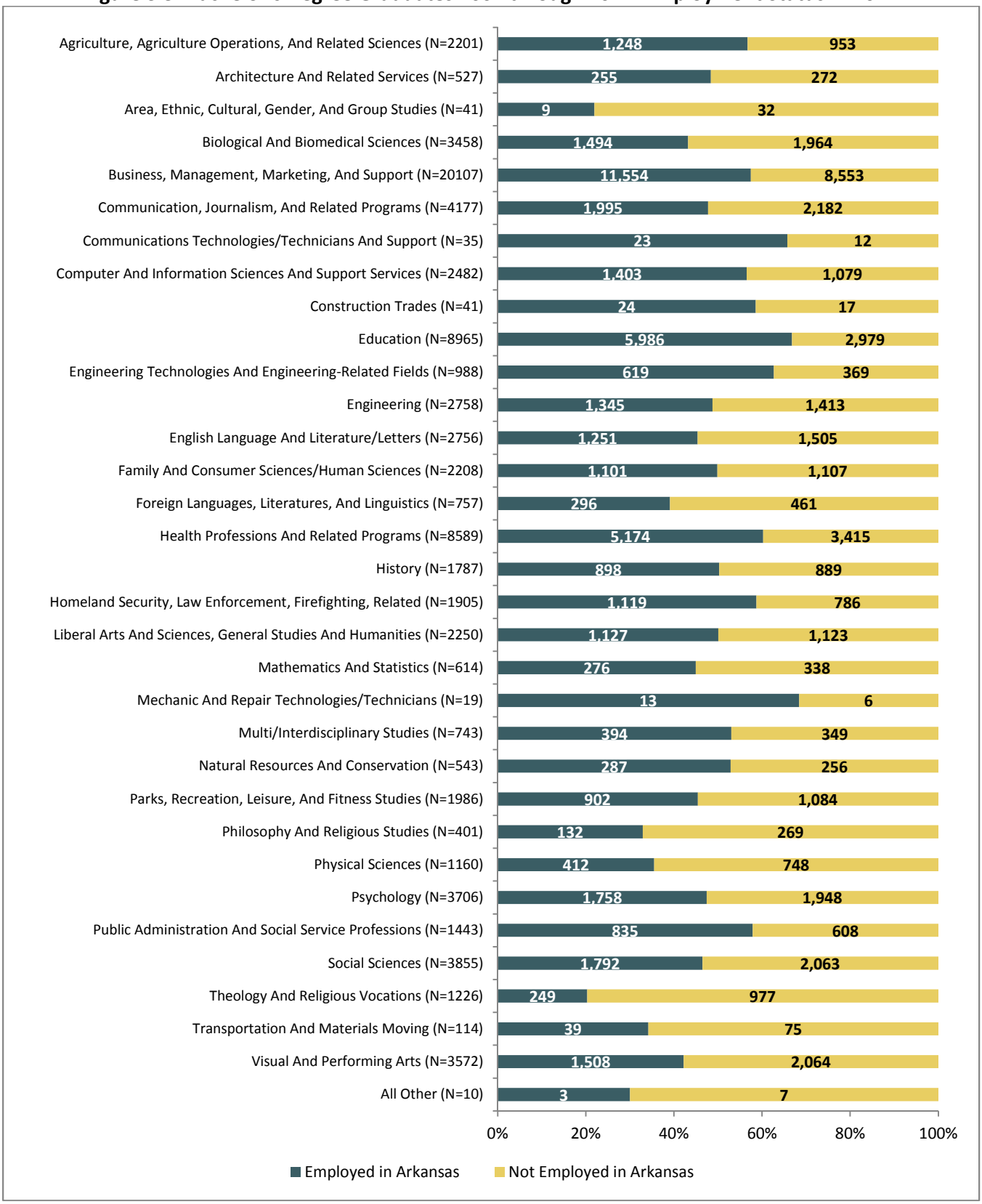


Figure 3.6: Master's Degree Graduates 2002 through 2011: Employment Status in 2012

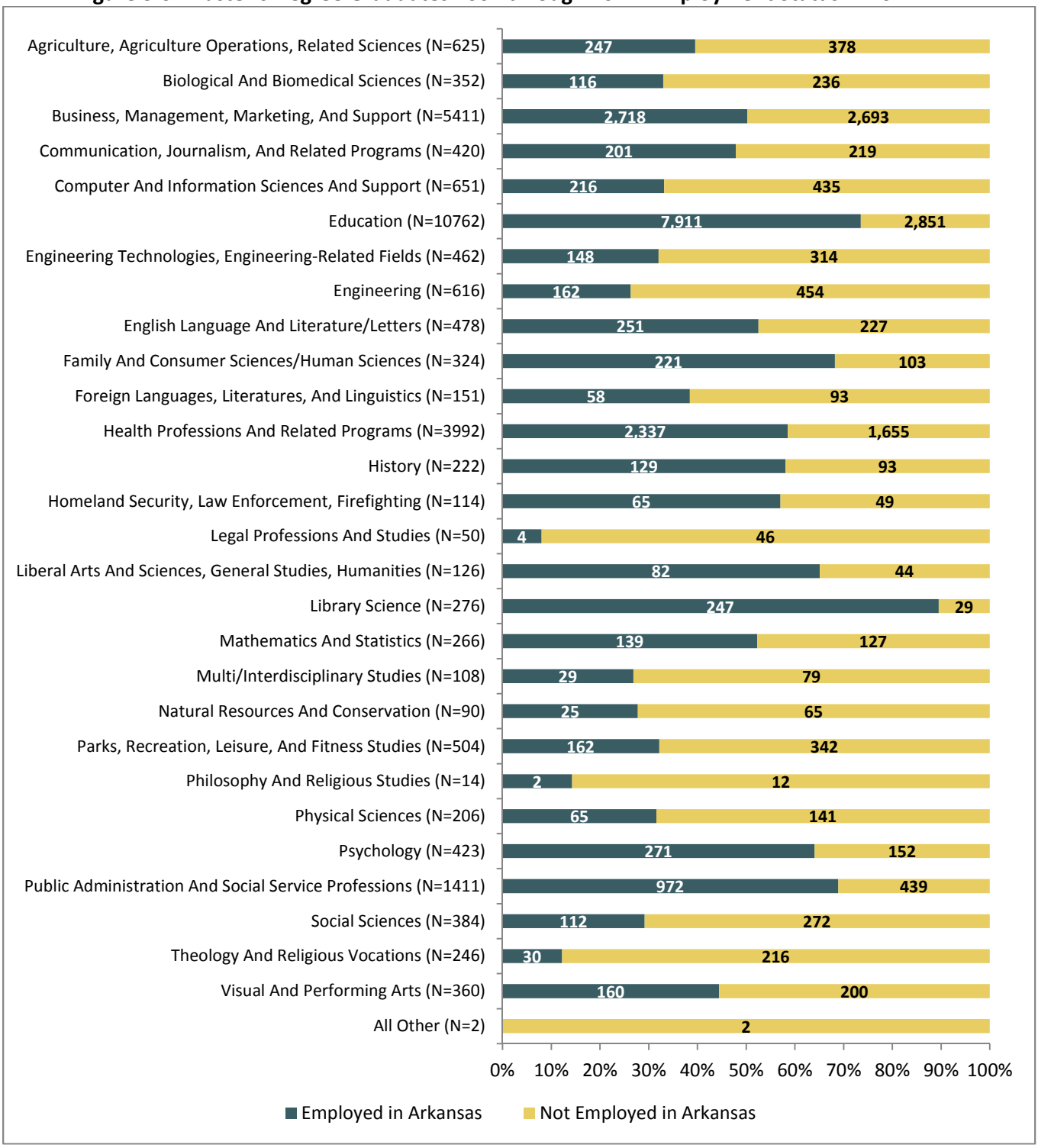


Figure 3.7: Post Master's Certificate Graduates 2002 through 2011: Employment Status in 2012

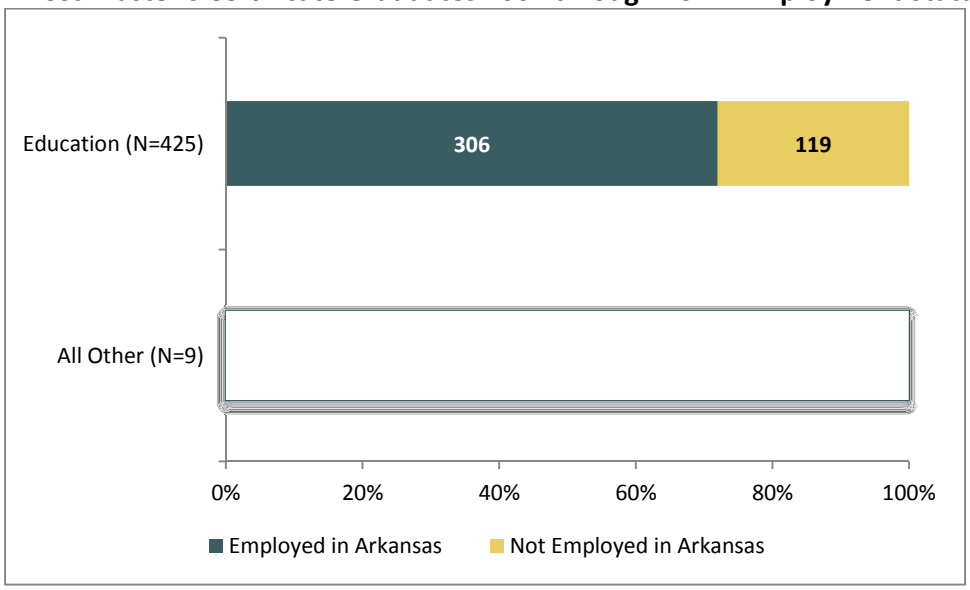
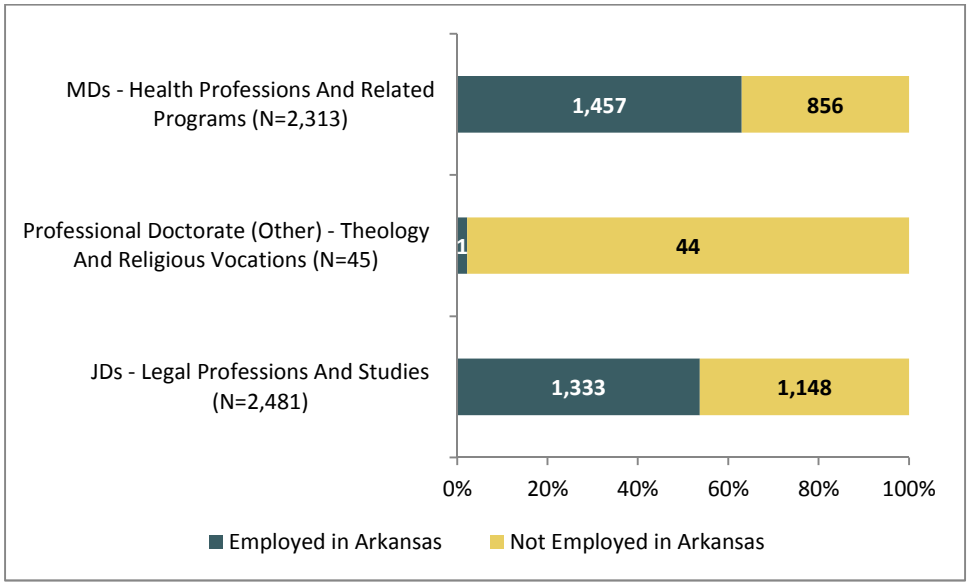


Figure 3.8: Doctoral 1st Professional Degree Graduates 2002 through 2011: Employment Status in 2012[8]



[8] Note that within this report, individuals holding MD and JD degrees were identified based on the "Health and Related Programs" and "Legal Professions and Studies" CIP codes, respectively. Together these groups accounted for roughly 99 percent of all individuals holding a "Doctoral 1st Professional" degree and who had an identifiable CIP code.

Figure 3.9: Doctor's Degree – Research (PhD) Graduates 2002 through 2011: Employment Status in 2012

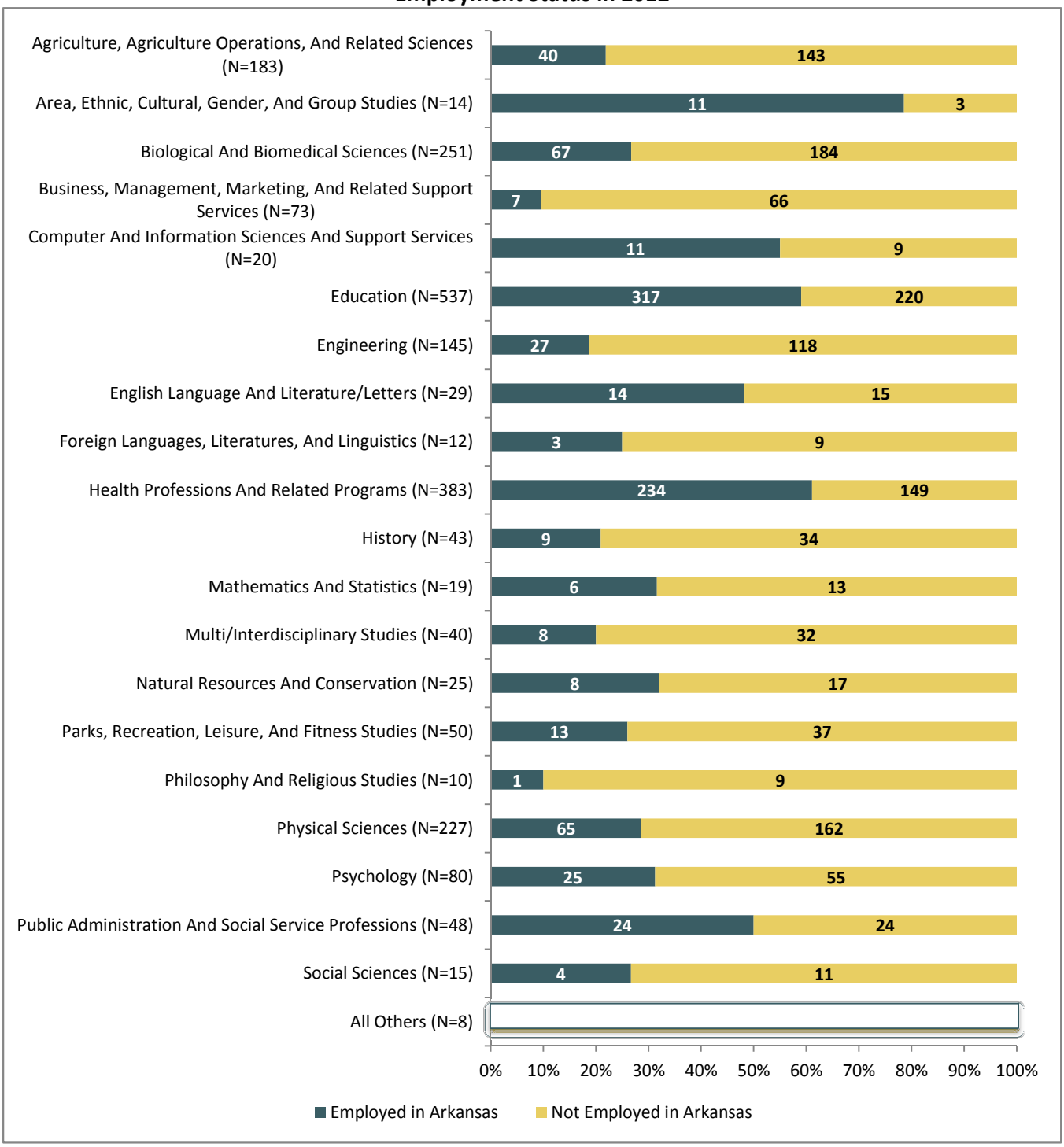
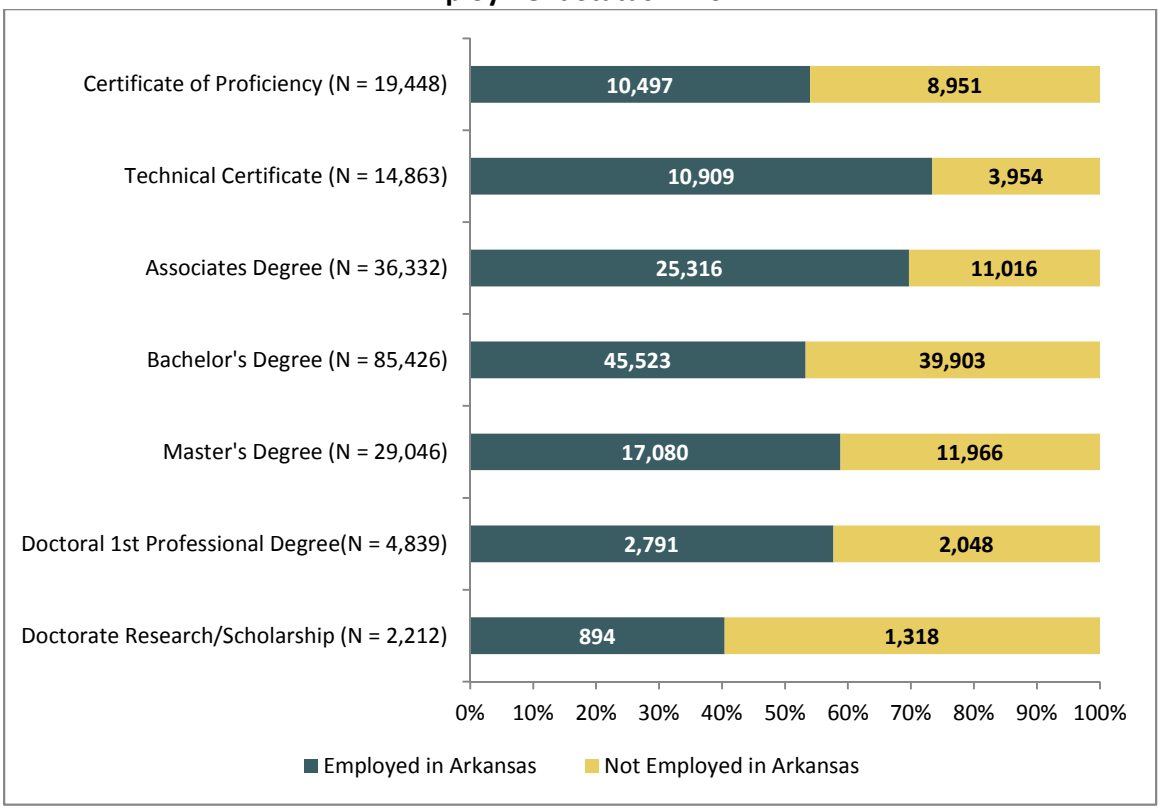


Figure 3.10 displays the overall number and percentage of individuals employed and not employed in the state of Arkansas for each level of credential. Please note that we only include individuals for whom we have an identified CIP code and who are represented in the previous set of charts above. Further, please keep in mind that employment status should be interpreted as employed *in Arkansas in a non-U.S. government position*. For advanced degree-holders, especially at the doctoral level, it is probable that many of the individuals listed as "not employed in Arkansas" are employed out of state or in a federal position.

Additionally, we separate the "Doctoral 1st Professional" category into individuals holding JDs (corresponding to the CIP code for Legal Professions and Studies) and MDs (corresponding to Health and Related Programs).

Figure 3.10: All Postsecondary Graduates 2002 through 2011: Employment Status in 2012



WAGE OUTCOMES IN 2012 FOR ALL POSTSECONDARY GRADUATES BY CREDENTIAL AND CIP CODE

As depicted below, Figure 3.11 shows the median wage in 2012 for graduates employed in non-U.S. government jobs in Arkansas by level of credential and CIP code for all graduates above high school for 2002 through 2011. As expected, in almost all CIP fields, a higher level of education is associated with a higher median wage. In the few cases where the median wage of a higher-level credential is lower, it is usually linked to a small sample size. Further note that unfilled cells either indicate that there were not enough employed graduates to meet minimum reporting requirements (more than five individuals) or that the CIP category is not offered at a particular level of credential.

As the figure illustrates, the highest median income is for "Doctor's Degree-Research (PhD)" holders in the field of "Business, Management, Marketing, and Related Support Services" (earning a median wage of $120,161), followed by "Doctoral 1st Professional Degree - MD" graduates in the field of "Health Professions And Related Programs" (earning a median wage of $115,370) in 2012.

Figure 3.11: Median Wages in 2012 for Graduates from 2002 to 2011 Employed in Arkansas by CIP Code Group and Degree Level

CIP Name/Description	(N)	Cert. of Prof.	Technical Cert.	Associate's Degree	Bachelor's Degree	Master's Degree	Post Master's Certificate	Doct. 1st Professional (MD)	Doct. 1st Professional (JD)	Doct. Research (PhD)
Agriculture, Agriculture Operations, And Related Sciences	3,943	$15,502		$22,631	$37,571	$49,706				$60,360
Natural Resources And Conservation	877				$31,089	$36,188				$62,249
Architecture And Related Services	668				$40,417					
Area, Ethnic, Cultural, Gender, And Group Studies	114			$14,212	$20,465					$44,500
Communication, Journalism, And Related Programs	5,818				$30,576	$40,529				
Communications Technologies/ Technicians And Support Services	132	$8,469		$15,460	$25,900					
Computer And Information Sciences And Support Services	5,370	$22,484	$24,330	$26,328	$51,969	$59,898				$47,542
Personal And Culinary Services	1,137	$8,030	$12,228	$26,501						
Education	29,296	$14,337	$16,711	$16,690	$35,023	$46,782				$66,315
Engineering	4,512				$62,785	$72,500				$59,635
Engineering Technologies And Engineering-Related Fields	5,140	$22,828	$26,334	$34,920	$50,856	$58,361				
Foreign Languages, Literatures, And Linguistics	1,241			$24,313	$25,669	$35,123				
Family And Consumer Sciences/Human Sciences	5,337	$15,204	$16,119	$19,341	$27,225	$40,954				
Legal Professions And Studies	3,405			$25,619					$49,008	

CIP Name/Description	(N)	Cert. of Prof.	Technical Cert.	Associate's Degree	Bachelor's Degree	Master's Degree	Post Master's Certificate	Doct. 1st Professional (MD)	Doct. 1st Professional (JD)	Doct. Research (PhD)
English Language And Literature/Letters	4,201				$27,186	$35,922				$30,575
Liberal Arts And Sciences, General Studies And Humanities	24,999		$18,615	$18,929	$25,938	$38,742				
Library Science	362					$47,342				
Biological And Biomedical Sciences	5,712				$33,636	$38,026				$51,808
Mathematics And Statistics	1,204				$39,357	$47,822				$39,577
Military Technologies And Applied Sciences	26			$45,521						
Multi/Interdisciplinary Studies	2,663			$27,634	$30,036	$40,536				$62,501
Parks, Recreation, Leisure, And Fitness Studies	3,470			$18,037	$30,720	$39,022				$53,817
Philosophy And Religious Studies	580			$9,217	$23,376					
Theology And Religious Vocations	1,856				$20,838	$22,306				
Physical Sciences	2,281				$37,147	$43,446				$48,698
Science Technologies/Technicians	N/A[9]									
Psychology	5,643				$26,069	$44,995				$51,878

[9] Sample size does not meet reporting threshold.

CIP Name/Description	(N)	Cert. of Prof.	Technical Cert.	Associate's Degree	Bachelor's Degree	Master's Degree	Post Master's Certificate	Doct. 1st Professional (MD)	Doct. 1st Professional (JD)	Doct. Research (PhD)
Homeland Security, Law Enforcement, Firefighting And Related Protective Services	6,077	$30,492	$33,033	$27,986	$28,919	$34,233				
Public Administration And Social Service Professions	3,835			$17,420	$25,581	$43,584				$61,707
Social Sciences	5,679				$27,974	$34,711				
Construction Trades	383	$34,296	$29,040	$41,090	$38,207					
Mechanic And Repair Technologies/Technicians	5,649	$17,558	$27,571	$36,882	$50,646					
Precision Production	2,829	$21,043	$26,274	$42,814						
Transportation And Materials Moving	7,852	$25,856	$17,295		$32,827					
Visual And Performing Arts	5,407	$20,094		$24,164	$25,692	$39,566				
Health Professions And Related Programs	47,267	$13,310	$27,209	$41,576	$43,872	$56,663	$85,672	$115,370		$65,765
Business, Management, Marketing, And Related Support Services	40,342	$34,312	$19,110	$22,753	$39,536	$60,772				$120,161
History	2,715				$25,354	$33,659				$56,936

INDUSTRY SECTOR EMPLOYMENT IN 2012 FOR ALL POSTSECONDARY GRADUATES BY CIP CODE

Figure 3.12 presents the various industry sectors in which postsecondary graduates were employed during 2012 in Arkansas. In addition, we also list the 2- or 3-digit North American Industry Classification System (NAICS) codes representing each industry sector.

Figure 3.12: Industry Sector Names and Associated NAICS Codes

INDUSTRY SECTOR	NAICS CODE
Agriculture	11
Mining	21
Utilities	22
Construction	23
Manufacturing Non-Durable Goods	311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
Manufacturing Durable Goods	321, 327, 331, 332, 333, 334, 335, 336, 337, 339
Wholesale Trade	42
Retail Trade	44, 45
Transportation and Warehousing	48, 49
Information	51
Finance	52
Real Estate Rental and Leasing	53
Professional, Scientific, and Technical Services	54
Management of Companies and Enterprises	55
Administrative and Support and Waste Management and Remediation Services	56
Educational Services	61
Health Care and Social Assistance	62
Arts, Entertainment, and Recreation	71
Accommodation and Food Services	72
Other Services (except Public Administration)	81
Public Administration	92

Figure 3.13 displays the distribution of employment in 2012 by industry for all postsecondary graduates who completed their highest level of education between 2002 and 2011 (and who are employed within the state of Arkansas in a non-U.S. government job). As the figure illustrates, the largest industry is "Health Care and Social Assistance," which employs nearly 27 percent of graduates, followed by "Educational Services," which employs 19 percent of graduates. "Retail Trade," "Public Administration," and "Professional, Scientific and Technical Services" represent the other top five employing industries.

Figure 3.13: Share of Employment in 2012 for Postsecondary Graduates between 2002 and 2011 by Industry Sector

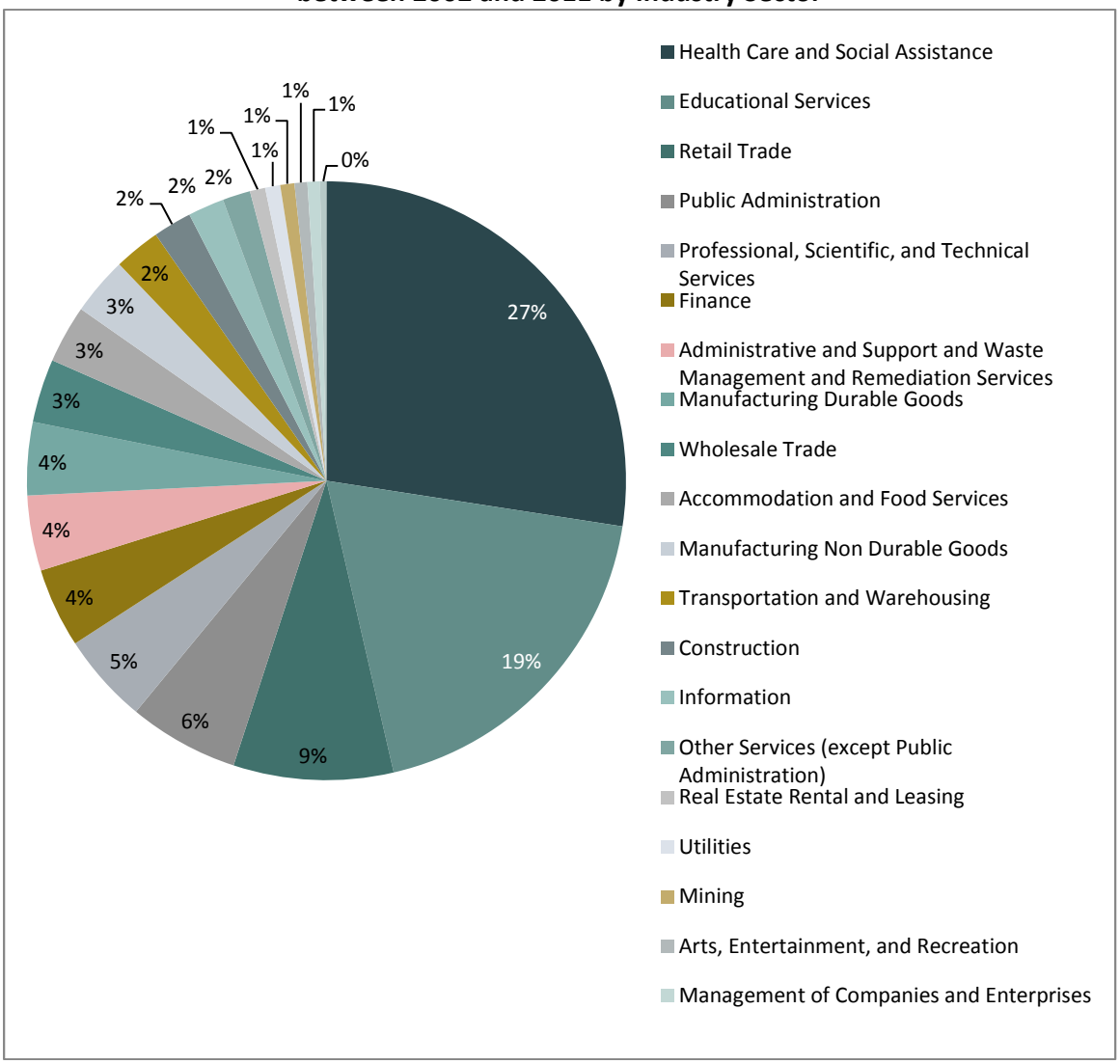


Figure 3.14 displays the industry sector of employment for all individuals who graduated with a postsecondary credential (certificate of proficiency or higher) between 2002 and 2011, further segmented by educational field (CIP code). Note that the top five employing industries for each educational field (row) are highlighted in red text and pink shading. Please see Appendix A for a further breakdown of these data by level of credential. Please note that any CIP category which has a total of less than ten (N=10) individuals is not displayed in these tables.[10]

[10] Thus, all rows in Figure 3.14 and also in the tables in Appendix A have at least 10 individuals who were *employed in Arkansas* in this CIP category.

Figure 3.14: All Postsecondary Graduates from 2002 to 2011 – Employment Industry Sectors in 2012 by CIP Code Group

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Agriculture, Agriculture Operations, And Related Sciences.	6%	1%	1%	2%	13%	2%	13%	8%	4%	1%	8%	1%	6%	0%	4%	14%	5%	2%	1%	2%	6%
Natural Resources And Conservation.	4%	4%	4%	3%	7%	6%	2%	9%	1%	1%	1%	0%	8%	0%	2%	10%	3%	2%	3%	3%	28%
Architecture And Related Services.	0%	0%	0%	6%	1%	1%	2%	9%	0%	0%	1%	1%	63%	0%	4%	4%	1%	1%	3%	0%	3%
Area, Ethnic, Cultural, Gender, And Group Studies.	0%	0%	0%	0%	6%	3%	0%	15%	0%	6%	3%	0%	0%	3%	3%	33%	9%	3%	9%	3%	3%
Communication, Journalism, And Rel. Prog.	0%	0%	1%	1%	2%	1%	7%	11%	3%	12%	7%	2%	9%	2%	6%	13%	9%	1%	4%	3%	3%
Communications Technologies/Technicians And Support Services.	3%	0%	0%	3%	6%	3%	3%	15%	6%	5%	5%	2%	3%	0%	12%	9%	9%	2%	8%	0%	6%
Computer And Information Sciences And Support Services.	0%	0%	2%	2%	6%	5%	5%	14%	3%	8%	5%	0%	16%	2%	5%	12%	7%	0%	2%	1%	3%
Personal And Culinary Services.	1%	0%	0%	0%	2%	2%	2%	17%	2%	1%	2%	1%	2%	0%	7%	4%	18%	2%	14%	21%	3%
Education.	0%	0%	0%	0%	1%	0%	1%	2%	0%	0%	1%	0%	1%	0%	1%	82%	8%	0%	1%	0%	1%
Engineering.	0%	2%	11%	8%	8%	20%	5%	8%	4%	2%	1%	0%	21%	1%	2%	4%	1%	0%	1%	1%	2%
Engineering Technologies And Engineering-Related Fields.	0%	4%	3%	10%	8%	20%	4%	9%	2%	2%	2%	1%	10%	1%	6%	5%	5%	0%	3%	1%	4%
Foreign Languages, Literatures, And Linguistics.	0%	0%	0%	1%	1%	1%	4%	10%	2%	2%	7%	1%	7%	0%	4%	37%	11%	1%	6%	3%	3%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Family And Consumer Sciences/Human Sciences.	0%	0%	0%	1%	2%	1%	2%	10%	1%	1%	2%	1%	4%	1%	3%	21%	38%	1%	4%	3%	4%
Legal Professions And Studies.	0%	0%	1%	1%	1%	0%	1%	7%	1%	1%	4%	1%	43%	1%	2%	5%	7%	0%	1%	1%	22%
English Language And Literature/Letters.	0%	0%	0%	1%	1%	2%	4%	10%	2%	6%	6%	1%	7%	1%	5%	29%	10%	1%	5%	2%	6%
Liberal Arts And Sciences, General Studies And Humanities.	0%	1%	1%	2%	3%	3%	3%	15%	2%	2%	6%	1%	3%	0%	6%	11%	25%	1%	8%	2%	5%
Library Science.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	98%	0%	0%	0%	0%	0%
Biological And Biomedical Sciences.	0%	1%	1%	1%	4%	2%	4%	8%	1%	1%	2%	0%	6%	0%	3%	13%	37%	0%	3%	1%	9%
Mathematics And Statistics.	0%	1%	2%	1%	2%	2%	2%	8%	1%	4%	8%	0%	9%	1%	2%	46%	3%	0%	1%	2%	4%
Multi/Interdisciplinary Studies.	0%	1%	2%	2%	9%	11%	4%	10%	2%	1%	3%	1%	2%	2%	5%	14%	20%	1%	4%	2%	5%
Parks, Recreation, Leisure, And Fitness Studies.	0%	1%	0%	2%	2%	2%	5%	9%	2%	1%	3%	1%	2%	0%	3%	25%	22%	8%	3%	3%	6%
Philosophy And Religious Studies.	0%	1%	1%	1%	4%	2%	2%	15%	3%	4%	5%	1%	7%	1%	4%	17%	13%	1%	9%	2%	7%
Theology And Religious Vocations.	1%	0%	0%	3%	1%	2%	3%	10%	1%	3%	9%	1%	4%	0%	4%	31%	16%	0%	3%	4%	5%
Physical Sciences.	0%	4%	2%	2%	8%	6%	3%	8%	2%	1%	2%	0%	12%	0%	5%	24%	11%	0%	3%	1%	6%
Psychology.	0%	0%	0%	1%	1%	1%	2%	8%	2%	2%	5%	1%	3%	0%	4%	12%	44%	1%	3%	2%	7%
Homeland Security, Law Enforcement, Firefighting And Related Protect. Serv.	0%	1%	1%	2%	2%	2%	2%	6%	2%	1%	2%	1%	2%	0%	3%	5%	11%	1%	2%	1%	53%
Public Administration And Social Service Professions.	0%	0%	0%	0%	1%	0%	1%	3%	0%	1%	3%	0%	2%	0%	2%	12%	62%	1%	1%	2%	7%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Social Sciences.	0%	1%	1%	2%	1%	1%	3%	11%	3%	2%	8%	1%	6%	0%	5%	12%	20%	1%	4%	3%	14%
Construction Trades.	1%	0%	15%	34%	4%	9%	4%	8%	2%	1%	1%	0%	2%	1%	3%	4%	3%	0%	3%	0%	3%
Mechanic And Repair Technologies/Technicians.	1%	3%	2%	9%	10%	18%	7%	14%	6%	1%	1%	2%	1%	0%	7%	3%	4%	1%	4%	5%	3%
Precision Production.	1%	4%	2%	12%	9%	26%	6%	8%	4%	1%	0%	1%	2%	0%	8%	2%	3%	1%	5%	3%	3%
Transportation And Materials Moving.	1%	6%	0%	6%	7%	8%	8%	6%	34%	0%	0%	1%	1%	0%	7%	3%	3%	0%	2%	2%	4%
Visual And Performing Arts.	0%	0%	0%	2%	4%	3%	4%	13%	1%	5%	3%	1%	10%	1%	4%	29%	6%	3%	7%	1%	3%
Health Professions And Related Programs.	0%	0%	0%	1%	1%	1%	1%	6%	1%	0%	1%	0%	1%	0%	3%	4%	73%	0%	2%	1%	3%
Business, Management, Marketing, And Related Support Services.	0%	1%	1%	2%	5%	5%	8%	12%	4%	4%	12%	2%	8%	2%	6%	7%	10%	1%	3%	2%	5%
History.	0%	1%	0%	2%	1%	2%	4%	13%	4%	5%	6%	1%	5%	0%	5%	22%	8%	3%	6%	2%	9%
Total	**389**	**851**	**925**	**2,355**	**3,539**	**4,447**	**3,896**	**9,753**	**2,821**	**2,211**	**4,847**	**937**	**5,516**	**753**	**4,606**	**21,451**	**31,024**	**793**	**3,541**	**1,705**	**6,744**

SECTION IV: "ATTAINERS" WHO REMAIN AND WORK IN ARKANSAS

DATA

This section of the report focuses on all individuals who attained their highest level of education between 2002 and 2011 (described as "attainers" in the analysis below), and were included in workforce services data at one, two, and five years after reaching their highest level of education (indicating that they are residing and working in Arkansas at these points in time).

"ATTAINERS" WHO REMAIN IN ARKANSAS BY LEVEL OF EDUCATIONAL ATTAINMENT

Figure 4.1 displays the percentage of all "attainers" who remained in the state of Arkansas and were employed (in non-U.S. government jobs) at one, two, and five years after reaching their highest level of educational attainment.

Note that data are not available/applicable for some cells. For example, for individuals who attained their highest level of education more recently than 2007, we cannot calculate whether they remained in Arkansas after five years. In such cases, the cells have been left blank.

Additionally, note that similar to analyses presented in Sections I and II of this report, we have excluded information for individuals whose highest level of educational attainment is a high school diploma or less than a high school diploma prior to 2006, as electronic records for these individuals were incomplete in that timeframe.

Figure 4.1: Percent of All "Attainers" 2002 to 2011 Who Remained in Arkansas After One Year, Two Years, and Five Years

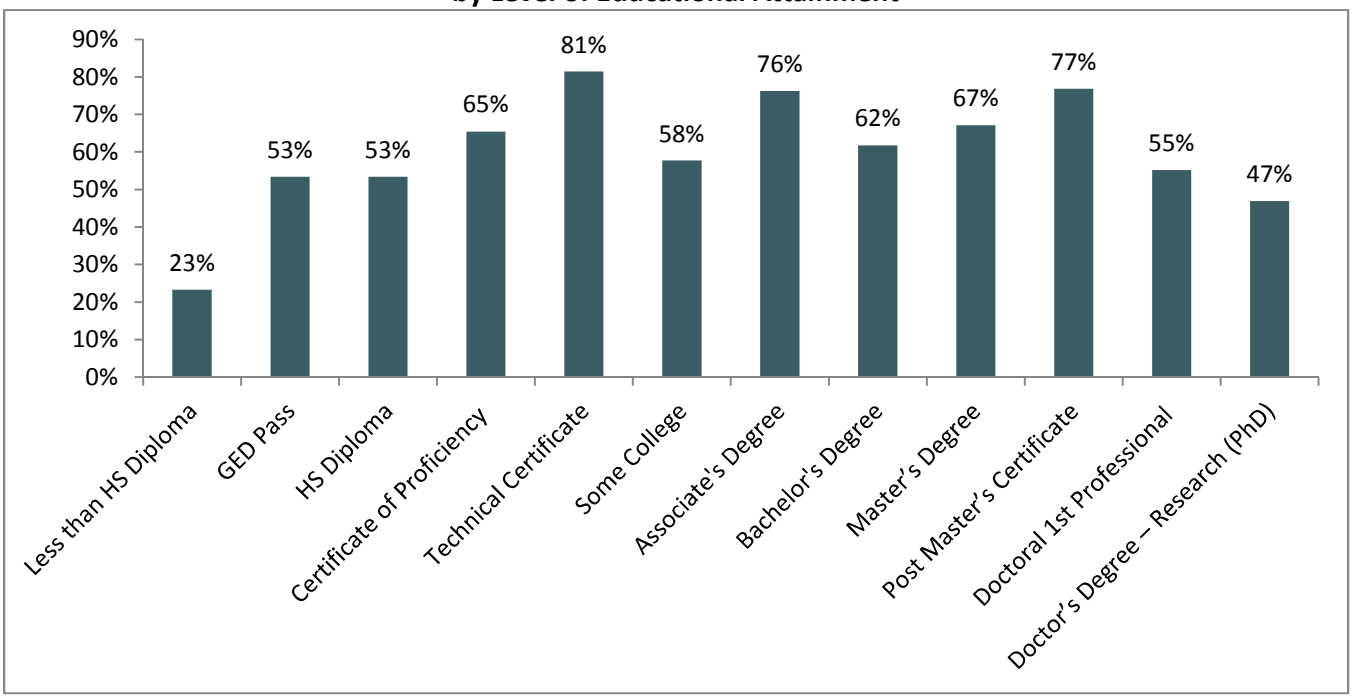
		"Past Attainers"					"Recent Attainers"				
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Less than HS Diploma	**# of Individuals**	--	--	--	--	**18,527**	**16,653**	**15,159**	**14,189**	**11,903**	**11,507**
	% in AR after 1 year	--	--	--	--	21%	21%	22%	24%	26%	28%
	% in AR after 2 years	--	--	--	--	21%	19%	23%	25%	28%	--
	% in AR after 5 years	--	--	--	--	18%	20%	--	--	--	--
GED Pass	**# of Individuals**	**2,937**	**3,742**	**3,879**	**3,171**	**2,670**	**2,429**	**2,622**	**2,327**	**2,588**	**2,695**
	% in AR after 1 year	60%	62%	62%	56%	53%	51%	45%	47%	45%	43%
	% in AR after 2 years	56%	58%	59%	53%	49%	45%	42%	44%	42%	--
	% in AR after 5 years	50%	49%	47%	43%	40%	39%	--	--	--	--
HS Diploma	**# of Individuals**	--	--	--	--	**12,968**	**13,109**	**13,830**	**13,430**	**13,701**	**14,735**
	% in AR after 1 year	--	--	--	--	57%	54%	52%	52%	52%	52%
	% in AR after 2 years	--	--	--	--	52%	48%	50%	51%	51%	--
	% in AR after 5 years	--	--	--	--	46%	45%	--	--	--	--
Certificate of Proficiency	**# of Individuals**	**1,442**	**1,422**	**1,545**	**1,456**	**1,776**	**1,765**	**2,123**	**2,410**	**2,671**	**2,838**
	% in AR after 1 year	60%	62%	56%	55%	59%	61%	62%	73%	75%	74%
	% in AR after 2 years	55%	53%	48%	48%	51%	52%	59%	69%	71%	--
	% in AR after 5 years	46%	45%	39%	39%	41%	47%	--	--	--	--

		"Past Attainers"					"Recent Attainers"				
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Technical Certificate	**# of Individuals**	**581**	**976**	**1,076**	**1,545**	**1,448**	**1,489**	**1,615**	**1,743**	**2,064**	**2,326**
	% in AR after 1 year	76%	81%	82%	83%	84%	83%	82%	80%	80%	81%
	% in AR after 2 years	72%	78%	80%	79%	79%	81%	80%	78%	79%	--
	% in AR after 5 years	67%	72%	73%	71%	74%	73%	--	--	--	--
Some College	**# of Individuals**	**19,600**	**20,823**	**21,912**	**22,412**	**23,692**	**23,846**	**24,805**	**25,116**	**29,199**	**33,457**
	% in AR after 1 year	57%	58%	59%	60%	57%	57%	56%	56%	58%	60%
	% in AR after 2 years	53%	54%	55%	56%	53%	53%	53%	53%	55%	--
	% in AR after 5 years	48%	47%	47%	48%	46%	47%	--	--	--	--
Associate's Degree	**# of Individuals**	**2,288**	**2,514**	**2,738**	**2,917**	**3,094**	**3,431**	**3,313**	**4,109**	**4,885**	**7,043**
	% in AR after 1 year	76%	77%	77%	76%	78%	76%	75%	77%	77%	75%
	% in AR after 2 years	73%	74%	74%	74%	74%	73%	73%	75%	75%	--
	% in AR after 5 years	68%	68%	67%	68%	70%	68%	--	--	--	--
Bachelor's Degree	**# of Individuals**	**8,649**	**9,139**	**9,543**	**9,842**	**10,347**	**10,982**	**10,972**	**11,451**	**12,614**	**14,568**
	% in AR after 1 year	60%	60%	61%	63%	62%	62%	62%	62%	62%	62%
	% in AR after 2 years	56%	56%	57%	59%	58%	58%	58%	58%	58%	--
	% in AR after 5 years	50%	51%	50%	52%	52%	52%	--	--	--	--
Master's Degree	**# of Individuals**	**2,040**	**2,037**	**2,217**	**2,501**	**2,718**	**2,951**	**3,291**	**3,519**	**4,070**	**5,116**
	% in AR after 1 year	63%	64%	62%	64%	67%	68%	67%	70%	70%	69%
	% in AR after 2 years	60%	61%	59%	62%	63%	65%	64%	67%	67%	
	% in AR after 5 years	56%	57%	53%	56%	58%	59%				
Post Master's Certificate	**# of Individuals**	**32**	**24**	**26**	**19**	**50**	**43**	**60**	**69**	**72**	**92**
	% in AR after 1 year	69%	75%	81%	74%	84%	67%	80%	81%	74%	77%
	% in AR after 2 years	66%	71%	81%	74%	82%	63%	78%	78%	71%	--
	% in AR after 5 years	63%	75%	77%	74%	78%	67%	--	--	--	--
Doctoral 1st Professional Degree	**# of Individuals**	**430**	**397**	**441**	**462**	**502**	**498**	**485**	**506**	**585**	**579**
	% in AR after 1 year	45%	49%	51%	51%	50%	61%	60%	60%	61%	59%
	% in AR after 2 years	47%	49%	51%	52%	59%	59%	61%	60%	59%	--
	% in AR after 5 years	54%	60%	57%	60%	58%	58%	--	--	--	--
Doctor's Degree – Research (PhD)	**# of Individuals**	**163**	**176**	**215**	**238**	**216**	**223**	**234**	**298**	**233**	**254**
	% in AR after 1 year	47%	40%	52%	42%	47%	53%	41%	47%	48%	49%
	% in AR after 2 years	45%	38%	51%	41%	42%	48%	40%	44%	45%	--
	% in AR after 5 years	44%	33%	42%	39%	40%	47%	--	--	--	--
Total		**38,162**	**41,250**	**43,592**	**44,563**	**78,008**	**77,419**	**78,509**	**79,167**	**84,585**	**95,210**

From Figure 4.1 we learn that except for those with a GED, the share of individuals who were employed within the state of Arkansas after one, two, and five years is relatively stable within each educational attainment level. Individuals with a technical certificate or an associate's degree were most likely to remain in Arkansas to work, while individuals with less than a high school diploma were least likely to be working in the state after one, two, or five years.

In order to more clearly observe differences by level of educational attainment, Figure 4.2 displays the weighted average percentage of "attainers" who remained to work in Arkansas after one year.

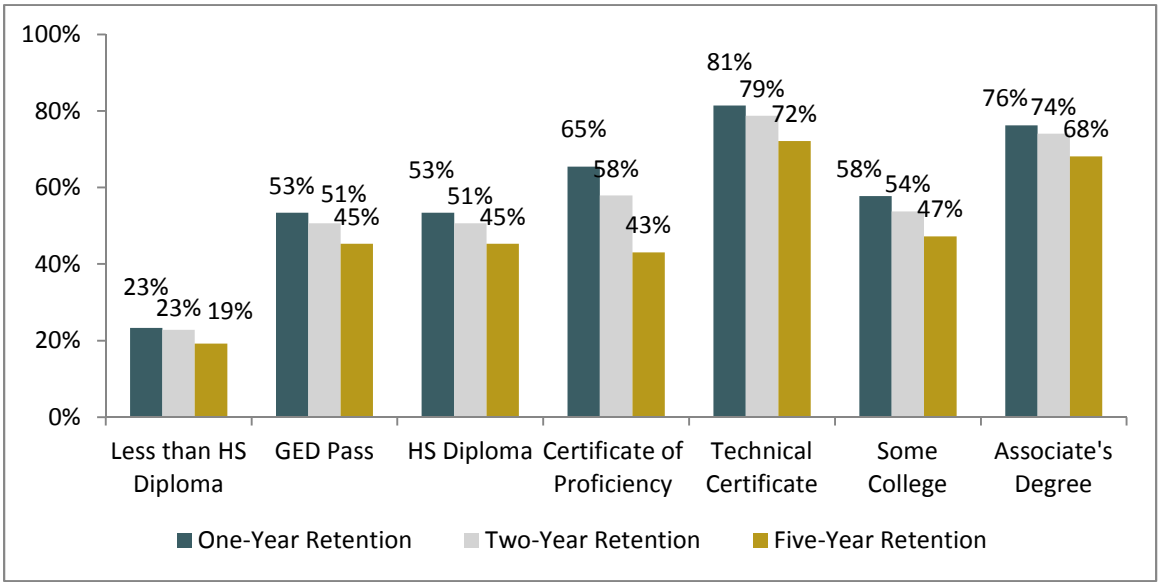
Figure 4.2: Average One-Year Retention within the State of Arkansas by Level of Educational Attainment



Note: "Retention" refers to the percentage of individuals found to be working within the state of Arkansas.

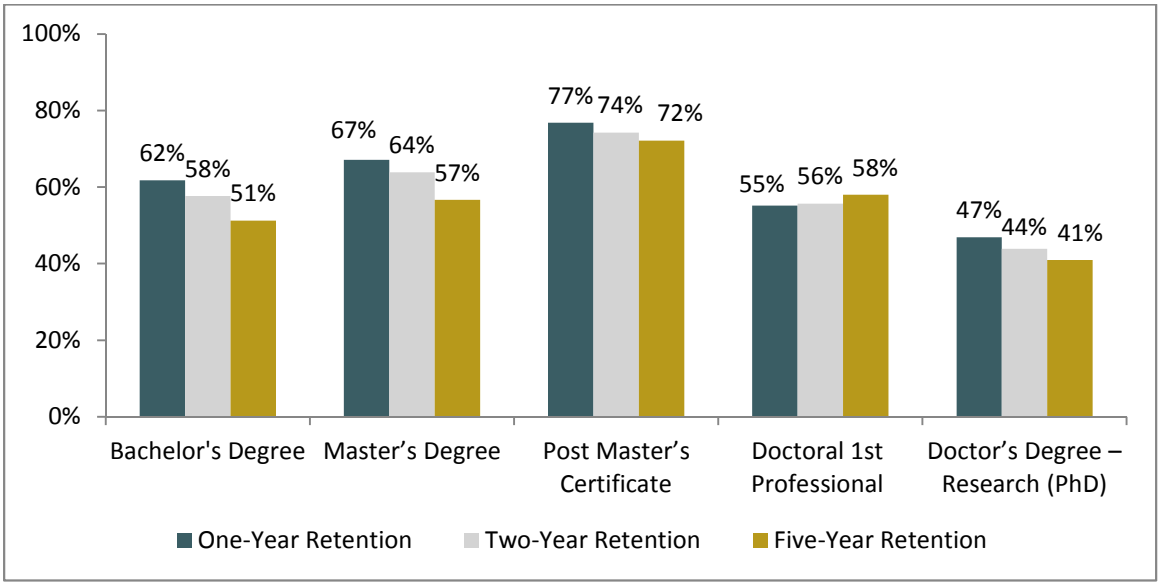
Figures 4.3a and 4.3b display the average percentage of graduates working in Arkansas after one, two, and five years. As expected, individuals are less likely to be working in Arkansas in five years compared to one year, as graduates are more likely to migrate out of state for employment after longer periods of time. This trend, however, does not hold for one of the highest levels of education – the first professional degree (which includes JDs and MDs). For this award type, the percentage of graduates who stay in Arkansas after one year, two years, or five years is very stable, and even increases slightly on average (suggesting that individuals may be returning to the state after leaving temporarily). Additionally, we observe that the declines in the percentage of those with two of the other highest levels of education – the post master's certificate and the doctor's degree research (PhD) – are fairly small after one year, two years, and five years. Intuitively, it may be the case that individuals with the highest levels of education face a range of employment options upon graduation, both in-state and out-of-state. Those who elect to stay in Arkansas for their careers may develop strong local ties and are thus less likely to move within the next five years.

Figure 4.3a: Average One-, Two-, and Five-Year Retention of "Attainers" within the State of Arkansas by Level of Educational Attainment (Less than HS Diploma through Associate's)



Note: "Retention" refers to the percentage of individuals found to be working within the state of Arkansas.

Figure 4.3b: Average One-, Two-, and Five-Year Retention of "Attainers" within the State of Arkansas by Level of Educational Attainment (Bachelor's through PhD)



Note: "Retention" refers to the percentage of individuals found to be working within the state of Arkansas.

APPENDIX A

For each level of educational attainment, we display the share of graduates by field of education (CIP code) employed in each industry sector. Note that for each CIP code, we highlight the top five industry sectors in red text and pink shading.

Figure A1: Certificate of Proficiency

CIP CODE DESCRIPTION	INDUSTRY SECTOR																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Communications Technologies/Technicians And Support Services.	4%	0%	0%	4%	4%	0%	0%	17%	9%	9%	0%	0%	4%	0%	17%	9%	9%	4%	4%	0%	4%
Computer And Information Sciences And Support Services.	0%	1%	1%	7%	5%	9%	10%	17%	1%	4%	6%	2%	3%	2%	5%	11%	6%	0%	6%	1%	3%
Personal And Culinary Services.	0%	0%	0%	0%	3%	0%	0%	43%	0%	0%	0%	0%	2%	2%	9%	0%	14%	0%	28%	0%	0%
Education.	0%	0%	0%	1%	2%	1%	1%	5%	1%	0%	2%	0%	1%	0%	2%	33%	42%	0%	7%	2%	1%
Engineering Technologies And Engineering-Related Fields.	1%	3%	0%	6%	7%	28%	5%	13%	4%	0%	1%	1%	3%	0%	7%	2%	4%	1%	7%	1%	3%
Family And Consumer Sciences/Human Sciences.	0%	0%	0%	0%	2%	1%	1%	7%	2%	0%	1%	1%	1%	0%	4%	25%	44%	1%	4%	3%	3%
Homeland Security, Law Enforcement, Firefighting And Related Protective Services.	0%	1%	1%	3%	1%	2%	2%	6%	2%	1%	1%	0%	1%	0%	4%	1%	5%	1%	4%	1%	64%
Construction Trades.	2%	0%	0%	59%	2%	14%	0%	8%	2%	0%	2%	0%	0%	0%	3%	3%	2%	0%	2%	0%	3%
Mechanic And Repair Technologies/Technicians.	1%	4%	1%	8%	9%	15%	5%	17%	4%	1%	0%	1%	2%	0%	10%	2%	3%	1%	9%	3%	4%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Precision Production.	1%	6%	1%	14%	10%	19%	7%	9%	4%	0%	0%	1%	1%	0%	8%	1%	3%	1%	6%	3%	4%
Transportation And Materials Moving.	1%	7%	1%	6%	7%	8%	8%	6%	35%	0%	0%	1%	1%	0%	7%	2%	3%	0%	1%	2%	3%
Health Professions And Related Programs.	0%	0%	0%	1%	4%	4%	2%	12%	1%	0%	1%	1%	1%	0%	6%	2%	44%	1%	9%	1%	7%
Business, Management, Marketing, And Related Support Services.	0%	1%	0%	3%	11%	14%	8%	11%	4%	2%	5%	1%	4%	3%	8%	4%	10%	0%	4%	1%	6%
All Other[11]	7%	0%	7%	0%	7%	7%	7%	20%	0%	0%	0%	0%	13%	0%	0%	0%	7%	0%	7%	20%	0%
Total	**60**	**215**	**39**	**446**	**580**	**825**	**400**	**1127**	**744**	**59**	**143**	**77**	**174**	**35**	**675**	**490**	**2690**	**63**	**681**	**175**	**771**

[11] "All Other" includes all CIP categories with less than 10 individuals.

Figure A2: Technical Certificate

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Computer And Information Sciences And Support Services.	0%	0%	0%	0%	11%	11%	11%	17%	0%	0%	11%	0%	6%	0%	0%	6%	22%	0%	0%	0%	6%
Personal And Culinary Services.	1%	0%	0%	0%	3%	2%	2%	16%	2%	1%	3%	1%	2%	0%	8%	5%	20%	2%	12%	16%	4%
Education.	0%	0%	0%	0%	2%	0%	2%	8%	2%	0%	0%	0%	0%	0%	2%	21%	58%	0%	4%	0%	2%
Engineering Technologies And Engineering-Related Fields.	1%	3%	2%	8%	13%	19%	4%	10%	4%	3%	1%	0%	6%	0%	9%	3%	4%	0%	4%	1%	3%
Family And Consumer Sciences/Human Sciences.	0%	0%	0%	0%	0%	2%	2%	8%	0%	0%	0%	1%	1%	0%	3%	25%	48%	0%	7%	1%	1%
Legal Professions And Studies.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	9%	18%	0%	18%	0%	18%	0%	18%	0%	9%
Liberal Arts And Sciences, General Studies And Humanities.	0%	0%	0%	3%	2%	2%	2%	17%	3%	4%	7%	1%	3%	1%	6%	5%	30%	0%	8%	2%	4%
Homeland Security, Law Enforcement, Firefighting And Related Protective Services.	0%	1%	1%	3%	1%	1%	1%	3%	1%	0%	1%	0%	1%	0%	1%	4%	4%	2%	0%	1%	73%
Construction Trades.	1%	1%	26%	17%	7%	8%	6%	8%	3%	2%	0%	0%	1%	0%	4%	2%	5%	1%	4%	1%	3%
Mechanic And Repair Technologies/Technicians.	1%	3%	1%	10%	9%	17%	6%	14%	6%	1%	0%	2%	1%	0%	7%	3%	4%	1%	3%	6%	4%
Precision Production.	2%	3%	2%	9%	7%	35%	5%	8%	4%	0%	0%	0%	2%	0%	9%	3%	3%	0%	3%	3%	3%
Transportation And Materials Moving.	0%	2%	0%	25%	10%	8%	10%	4%	8%	0%	0%	2%	0%	0%	12%	4%	4%	0%	6%	0%	8%
Health Professions And Related Programs.	0%	0%	0%	1%	1%	1%	0%	3%	1%	0%	1%	0%	1%	0%	4%	2%	78%	0%	2%	1%	3%
Business, Management, Marketing, Related Support Services.	0%	1%	0%	1%	4%	9%	3%	14%	3%	2%	7%	1%	4%	1%	7%	6%	23%	0%	8%	2%	5%

CIP Code Description	Industry Sector																				
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
All Other[12]	0%	0%	0%	0%	22%	0%	0%	22%	0%	0%	0%	0%	22%	0%	0%	11%	11%	0%	11%	0%	0%
Total	**54**	**119**	**84**	**394**	**395**	**782**	**264**	**825**	**267**	**74**	**153**	**80**	**158**	**24**	**534**	**385**	**4,415**	**53**	**329**	**250**	**1,251**

[12] "All Other" includes all CIP categories with less than 10 individuals.

Figure A3: Associate's Degree

CIP Code Description	Industry Sector																		
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Agriculture, Agriculture Operations, And Related Sciences.	4%	0%	0%	0%	7%	15%	4%	11%	4%	0%	4%	4%	7%	0%	4%	4%	15%	0%	4%	0%	15%
Area, Ethnic, Cultural, Gender, And Group Studies.	0%	0%	0%	0%	15%	8%	0%	38%	0%	0%	0%	0%	0%	8%	8%	0%	8%	0%	15%	0%	0%
Communications Technologies/Technicians And Support Services.	6%	0%	0%	0%	6%	6%	11%	17%	6%	6%	0%	0%	0%	0%	6%	6%	11%	0%	22%	0%	0%
Computer And Information Sciences And Support Services.	0%	0%	1%	2%	5%	10%	5%	15%	3%	5%	3%	1%	7%	0%	8%	12%	11%	1%	2%	2%	4%
Personal And Culinary Services.	0%	0%	0%	0%	1%	3%	1%	8%	2%	1%	2%	1%	1%	0%	5%	5%	14%	2%	14%	38%	3%
Education.	0%	0%	0%	1%	1%	2%	2%	7%	1%	0%	2%	0%	1%	0%	2%	26%	46%	1%	3%	2%	3%
Engineering Technologies And Engineering-Related Fields.	0%	7%	4%	6%	8%	16%	4%	8%	2%	2%	2%	1%	14%	0%	6%	5%	5%	0%	2%	2%	5%
Family And Consumer Sciences/Human Sciences.	0%	0%	0%	0%	1%	0%	0%	3%	0%	0%	1%	0%	1%	0%	3%	23%	56%	0%	2%	6%	2%
Legal Professions And Studies.	0%	0%	0%	1%	1%	1%	2%	14%	1%	2%	5%	1%	29%	2%	10%	3%	8%	0%	2%	1%	17%
Liberal Arts And Sciences, General Studies And Humanities.	0%	1%	1%	2%	3%	3%	3%	16%	2%	2%	6%	1%	3%	0%	6%	10%	25%	1%	8%	2%	5%
Multi/Interdisciplinary Studies.	0%	2%	2%	4%	10%	14%	4%	11%	1%	1%	2%	1%	2%	1%	6%	13%	17%	0%	3%	2%	4%
Parks, Recreation, Leisure, And Fitness Studies.	0%	0%	0%	0%	0%	9%	0%	36%	0%	0%	0%	0%	0%	0%	18%	0%	9%	18%	0%	0%	9%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Homeland Security, Law Enforcement, Firefighting And Related Protective Services.	0%	0%	0%	2%	3%	3%	2%	10%	1%	2%	1%	1%	2%	0%	4%	5%	13%	1%	4%	1%	45%
Public Administration And Social Service Professions.	0%	0%	0%	0%	2%	2%	0%	6%	2%	0%	4%	0%	4%	0%	2%	9%	62%	0%	0%	0%	6%
Construction Trades.	0%	0%	9%	17%	0%	4%	9%	9%	0%	4%	4%	0%	17%	9%	4%	9%	0%	0%	4%	0%	0%
Mechanic And Repair Technologies/Technicians.	1%	3%	4%	7%	13%	23%	9%	10%	5%	1%	1%	2%	2%	1%	4%	5%	4%	0%	2%	3%	2%
Precision Production.	0%	2%	8%	3%	6%	49%	3%	0%	0%	5%	0%	2%	0%	0%	5%	3%	5%	2%	3%	3%	3%
Visual And Performing Arts.	0%	0%	0%	3%	11%	9%	5%	16%	2%	5%	2%	1%	12%	0%	7%	7%	6%	1%	8%	2%	1%
Health Professions And Related Programs.	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	1%	1%	0%	2%	3%	85%	0%	1%	1%	2%
Business, Management, Marketing, And Related Support Services.	0%	1%	1%	2%	5%	6%	4%	12%	3%	3%	8%	1%	4%	1%	7%	11%	20%	1%	4%	2%	6%
All Other[13]	0%	0%	0%	0%	0%	10%	0%	14%	0%	5%	5%	0%	0%	0%	0%	29%	19%	0%	5%	0%	5%
Total	**59**	**187**	**200**	**456**	**812**	**1,140**	**653**	**2710**	**450**	**401**	**1,061**	**234**	**815**	**111**	**1,243**	**2,092**	**9,470**	**180**	**1,246**	**440**	**1,317**

[13] "All Other" includes all CIP categories with less than 10 individuals.

Figure A4: Bachelor's Degree

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Agriculture, Agriculture Operations, And Related Sciences.	7%	2%	1%	3%	13%	2%	14%	8%	5%	1%	8%	1%	6%	0%	4%	8%	5%	2%	1%	1%	7%
Natural Resources And Conservation.	4%	5%	3%	3%	7%	6%	2%	9%	1%	1%	1%	0%	8%	0%	2%	7%	3%	2%	3%	3%	28%
Architecture And Related Services.	0%	0%	0%	6%	1%	1%	2%	9%	0%	0%	1%	1%	63%	0%	4%	4%	1%	1%	3%	0%	3%
Communication, Journalism, And Related Programs.	0%	0%	0%	1%	2%	2%	8%	12%	3%	13%	8%	2%	10%	2%	6%	10%	9%	1%	4%	3%	3%
Communications Technologies/Technicians And Support Services.	0%	0%	0%	4%	9%	4%	0%	9%	4%	0%	13%	4%	4%	0%	13%	13%	9%	0%	0%	0%	13%
Computer And Information Sciences And Support Services.	0%	0%	3%	2%	6%	3%	4%	14%	4%	10%	6%	0%	20%	3%	4%	9%	5%	0%	1%	1%	3%
Education	0%	0%	0%	1%	1%	1%	1%	2%	1%	0%	1%	0%	1%	0%	2%	78%	8%	0%	1%	1%	1%
Engineering	0%	2%	11%	8%	8%	21%	5%	7%	4%	2%	1%	0%	20%	1%	3%	2%	1%	0%	1%	1%	2%
Engineering Technologies And Engineering-Related	0%	1%	4%	22%	8%	21%	4%	5%	0%	4%	2%	1%	10%	1%	3%	5%	3%	0%	1%	1%	3%
Foreign Languages, Literatures, And Linguistics.	0%	0%	0%	1%	1%	1%	4%	11%	2%	2%	8%	1%	8%	0%	5%	28%	12%	1%	7%	3%	4%
Family And Consumer Sciences/Human Sciences.	0%	0%	0%	1%	2%	1%	4%	15%	2%	2%	4%	1%	7%	1%	3%	14%	28%	1%	6%	2%	5%
English Language And Literature/Letters.	0%	0%	0%	1%	2%	2%	4%	12%	2%	7%	6%	1%	7%	1%	6%	21%	12%	1%	5%	2%	6%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Liberal Arts And Sciences, General Studies And Humanities.	0%	0%	1%	2%	2%	2%	4%	9%	2%	3%	6%	1%	3%	0%	6%	22%	24%	1%	3%	2%	6%
Biological And Biomedical Sciences.	0%	1%	1%	1%	4%	2%	4%	9%	1%	1%	3%	0%	6%	0%	4%	10%	39%	0%	3%	1%	8%
Mathematics And Statistics.	0%	1%	3%	1%	3%	3%	3%	11%	1%	4%	10%	1%	9%	2%	3%	34%	4%	0%	2%	2%	5%
Multi/Interdisciplinary Studies.	1%	1%	2%	0%	8%	6%	4%	8%	3%	2%	4%	1%	2%	3%	5%	14%	24%	1%	6%	2%	6%
Parks, Recreation, Leisure, And Fitness Studies.	0%	1%	0%	3%	3%	2%	5%	9%	3%	1%	3%	1%	2%	0%	4%	19%	23%	8%	3%	3%	6%
Philosophy And Religious Studies.	0%	1%	1%	2%	5%	2%	2%	15%	3%	4%	5%	1%	8%	1%	3%	15%	14%	1%	9%	2%	8%
Theology And Religious Vocations.	1%	0%	0%	3%	1%	2%	3%	11%	1%	2%	9%	1%	4%	0%	5%	28%	17%	0%	4%	2%	5%
Physical Sciences.	0%	5%	2%	2%	9%	6%	4%	10%	2%	2%	2%	0%	13%	0%	6%	14%	13%	0%	4%	2%	6%
Psychology.	0%	0%	0%	1%	2%	1%	2%	9%	2%	3%	5%	1%	4%	0%	5%	10%	41%	1%	4%	2%	8%
Homeland Security, Law Enforcement, Firefighting And Related Protective Services.	0%	0%	1%	2%	2%	1%	4%	8%	2%	2%	5%	1%	3%	0%	4%	6%	18%	1%	3%	2%	34%
Public Administration And Social Service Professions.	0%	0%	0%	0%	1%	0%	2%	6%	1%	1%	3%	1%	2%	0%	4%	10%	58%	1%	2%	2%	7%
Social Sciences.	0%	1%	1%	1%	2%	1%	3%	11%	3%	2%	9%	1%	6%	1%	5%	9%	21%	1%	4%	3%	15%
Construction Trades.	0%	0%	0%	75%	0%	8%	0%	4%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%
Mechanic And Repair Technologies/Technicians.	0%	0%	0%	23%	8%	31%	8%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	15%
Transportation And Materials Moving.	0%	0%	0%	0%	3%	3%	3%	5%	31%	0%	5%	0%	8%	3%	3%	13%	3%	0%	5%	0%	18%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Visual And Performing Arts.	0%	0%	0%	2%	4%	3%	5%	13%	1%	5%	4%	1%	10%	1%	4%	27%	6%	3%	7%	1%	3%
Health Professions And Related Programs.	0%	0%	0%	0%	1%	1%	1%	2%	0%	0%	2%	0%	1%	0%	3%	5%	79%	0%	1%	1%	3%
Business, Management, Marketing, And Related	0%	1%	1%	2%	4%	4%	8%	13%	5%	4%	15%	2%	9%	2%	6%	6%	8%	1%	3%	1%	5%
History.	0%	1%	1%	2%	1%	2%	4%	14%	4%	5%	7%	1%	5%	1%	5%	18%	9%	3%	7%	2%	9%
All Other[14]	0%	8%	0%	0%	0%	8%	0%	0%	0%	8%	8%	0%	0%	0%	0%	25%	25%	0%	8%	8%	0%
Total	**184**	**291**	**469**	**945**	**1,478**	**1,389**	**2,134**	**4,038**	**1,202**	**1,421**	**3,060**	**480**	**3,084**	**485**	**1,883**	**8,544**	**9,486**	**419**	**1,204**	**673**	**2,604**

[14] "All Other" includes all CIP categories with less than 10 individuals.

Figure A5: Master's Degree

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Agriculture, Agriculture Operations, And Related Sciences.	4%	0%	1%	0%	13%	0%	10%	5%	2%	0%	8%	0%	5%	0%	3%	36%	3%	1%	2%	2%	5%
Natural Resources And Conservation.	4%	0%	4%	0%	0%	4%	0%	8%	0%	0%	4%	0%	12%	0%	0%	24%	4%	0%	0%	4%	32%
Communication, Journalism, And Related Programs.	0%	0%	1%	0%	2%	0%	2%	6%	2%	4%	4%	1%	6%	2%	2%	41%	13%	1%	2%	4%	3%
Computer And Information Sciences And Support Services.	0%	0%	1%	1%	7%	3%	3%	9%	4%	7%	2%	0%	24%	1%	4%	22%	7%	0%	1%	1%	1%
Education.	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	90%	5%	0%	0%	0%	1%
Engineering.	0%	1%	5%	10%	8%	13%	6%	11%	5%	1%	0%	0%	28%	1%	0%	9%	0%	0%	0%	0%	2%
Engineering Technologies And Engineering-Related Fields.	0%	1%	5%	1%	8%	24%	5%	13%	6%	2%	2%	2%	7%	0%	3%	13%	7%	0%	0%	0%	1%
Foreign Languages, Literatures, And Linguistics.	0%	0%	0%	0%	0%	0%	3%	5%	0%	2%	2%	0%	0%	0%	0%	81%	5%	0%	0%	2%	0%
Family And Consumer Sciences/Human Sciences.	0%	0%	0%	0%	0%	1%	1%	2%	0%	0%	0%	0%	1%	1%	2%	43%	36%	0%	4%	2%	6%
English Language And Literature/Letters.	0%	0%	0%	0%	0%	2%	1%	2%	0%	3%	3%	0%	6%	0%	0%	69%	4%	1%	1%	2%	3%
Liberal Arts And Sciences, General Studies And Humanities.	0%	0%	0%	0%	0%	0%	0%	5%	1%	4%	0%	0%	4%	0%	1%	73%	4%	2%	0%	0%	6%
Library Science.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	98%	0%	0%	0%	0%	0%
Biological And Biomedical Sciences.	1%	1%	0%	2%	4%	1%	3%	3%	2%	0%	0%	0%	4%	0%	1%	42%	14%	0%	1%	2%	20%
Mathematics And Statistics.	0%	0%	1%	1%	0%	0%	1%	4%	1%	5%	4%	0%	8%	0%	1%	68%	2%	0%	0%	2%	3%

CIP Code Description	Industry Sector																			
	Agriculture	Mining	Utilities	Construction	Manufacturing Non Durable Goods	Manufacturing Durable Goods	Wholesale Trade	Retail Trade	Transportation and Warehousing	Information	Finance	Real Estate Rental and Leasing	Professional, Scientific, and Technical Services	Management of Companies and Enterprises	Administrative and Support and Waste Management and Remediation Services	Educational Services	Health Care and Social Assistance	Arts, Entertainment, and Recreation	Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Multi/Interdisciplinary Studies.	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%	0%	17%	0%	7%	24%	28%	3%	0%	3%	10%
Parks, Recreation, Leisure, And Fitness Studies.	0%	1%	0%	1%	2%	1%	2%	3%	1%	1%	1%	0%	1%	0%	1%	52%	19%	6%	2%	3%	4%
Theology And Religious Vocations.	0%	0%	0%	0%	0%	0%	0%	7%	3%	3%	3%	0%	3%	0%	0%	53%	10%	0%	0%	17%	0%
Physical Sciences.	0%	3%	0%	2%	8%	9%	2%	2%	0%	2%	2%	0%	11%	0%	3%	45%	3%	0%	0%	2%	9%
Psychology.	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	1%	1%	0%	1%	22%	67%	0%	0%	0%	3%
Homeland Security, Law Enforcement, Firefighting And Related Protective Services.	0%	0%	3%	0%	2%	0%	2%	2%	0%	3%	0%	0%	9%	0%	3%	23%	14%	0%	0%	0%	39%
Public Administration And Social Service Professions.	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	3%	0%	2%	0%	2%	12%	67%	1%	0%	2%	7%
Social Sciences.	0%	0%	0%	4%	0%	1%	5%	8%	3%	2%	1%	1%	4%	0%	4%	45%	12%	0%	4%	2%	5%
Visual And Performing Arts.	0%	0%	0%	1%	0%	0%	0%	9%	1%	2%	0%	0%	1%	0%	1%	75%	4%	4%	2%	0%	1%
Health Professions And Related Programs.	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	2%	15%	75%	0%	0%	0%	3%
Business, Management, Marketing, And Related Support Services.	0%	1%	3%	2%	5%	7%	10%	10%	3%	5%	9%	1%	14%	2%	3%	11%	7%	0%	1%	1%	4%
History.	0%	0%	0%	1%	2%	1%	1%	5%	1%	7%	2%	0%	2%	0%	5%	50%	7%	5%	0%	2%	9%
All Other[15]	0%	0%	0%	0%	17%	0%	0%	17%	0%	0%	0%	0%	17%	0%	17%	33%	0%	0%	0%	0%	0%
Total	**26**	**34**	**117**	**98**	**244**	**303**	**393**	**510**	**139**	**235**	**382**	**47**	**655**	**86**	**241**	**9,112**	**3,386**	**71**	**68**	**138**	**474**

[15] "All Other" includes all CIP categories with less than 10 individuals.

The Education CIP category represents 305 out of the 311 individuals earning post master's certificates for whom industry sector data were available. Therefore statistics are only shown for this CIP. Additionally, industry sectors employing 10 or more individuals are broken out while all other sectors where N<10 are combined into an "all other" industry sector category. The "total" reflects all individuals with a post master's certificate.

Figure A6: Post Master's Certificate

CIP Code Description	Industry Sector		
	All Other	Educational Services	Health Care and Social Assistance
Education	3%	79%	18%
Total	**11**	**242**	**58**

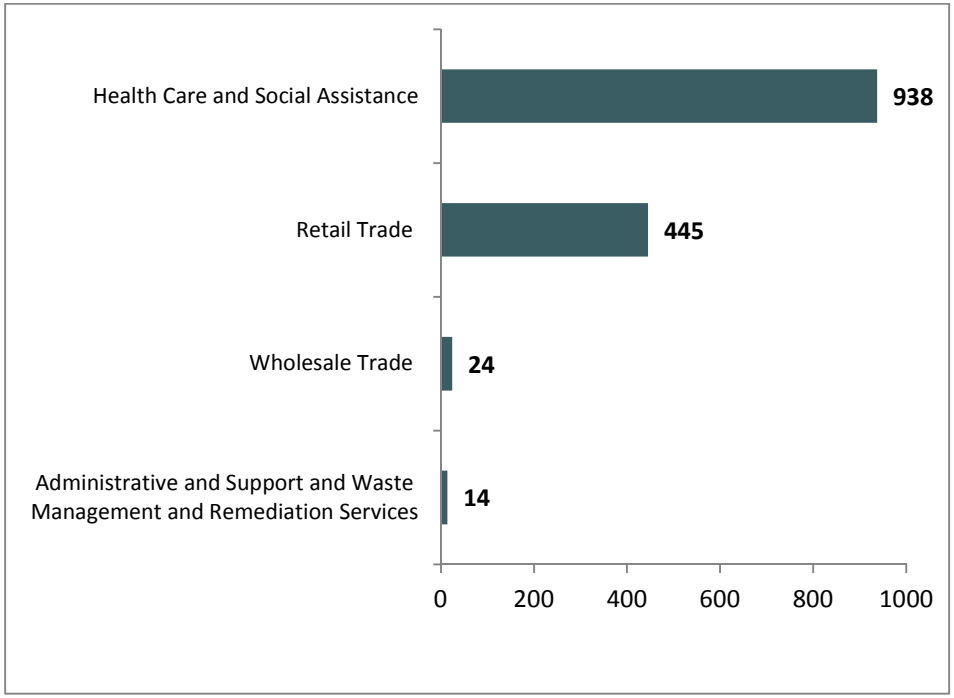
Similar to the above, in Figure A7 on the following page, industry sectors employing 10 or more individuals are broken out while all other sectors where N<10 are combined into an "all other" industry sector category.

Figure A7: Doctor's Degree – Research (PhD)

CIP Code Description	Industry Sector							
	All Other	Manufacturing Non Durable Goods	Wholesale Trade	Professional, Scientific, and Technical Services	Educational Services	Health Care and Social Assistance	Other Services (except Public Administration)	Public Administration
Agriculture, Agriculture Operations, And Related Sciences.	13%	10%	10%	5%	58%	5%	0%	0%
Area, Ethnic, Cultural, Gender, And Group Studies.	18%	0%	0%	0%	73%	0%	0%	9%
Computer And Information Sciences And Support Services.	18%	0%	0%	18%	55%	9%	0%	0%
Education.	2%	1%	1%	1%	83%	8%	2%	3%
Engineering.	22%	4%	0%	26%	48%	0%	0%	0%
English Language And Literature/Letters.	0%	0%	0%	0%	100%	0%	0%	0%
Biological And Biomedical Sciences.	1%	0%	1%	9%	43%	40%	0%	4%
Parks, Recreation, Leisure, And Fitness Studies.	0%	0%	0%	0%	92%	8%	0%	0%
Physical Sciences.	8%	5%	0%	6%	74%	8%	0%	0%
Psychology.	0%	0%	0%	0%	36%	56%	0%	8%
Public Administration And Social Service Professions.	8%	0%	8%	0%	54%	17%	8%	4%
Health Professions And Related Programs.	2%	0%	0%	0%	15%	80%	0%	1%
All Other[16]	7%	0%	4%	7%	78%	4%	0%	0%
Total	**37**	**10**	**12**	**28**	**511**	**268**	**10**	**18**

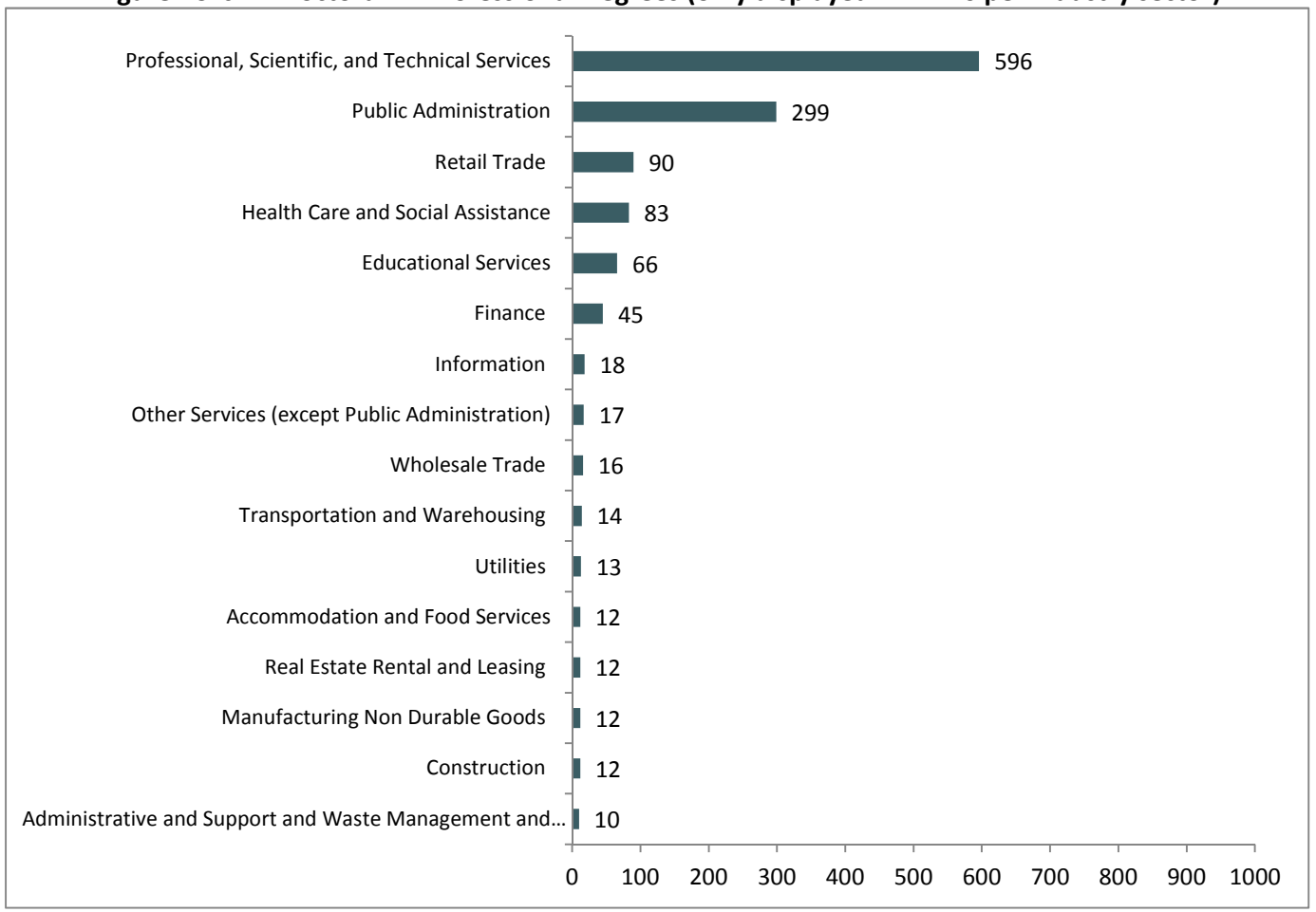
[16] "All Other" includes all CIP categories with less than 10 individuals.

Figure A8: MD – Doctoral 1st Professional Degrees (only displayed if N>=10 per industry sector)



Note: 36 MDs are employed in other industry sectors. Sample sizes for each of these other sectors were below 10.

Figure A9: JD – Doctoral 1st Professional Degrees (only displayed if N>=10 per industry sector)



Note: 18 JDs are employed in other industry sectors. Sample sizes for each of these other sectors were below 10.

About Hanover Research

Founded in 2003, Hanover Research is a global information services firm providing knowledge support to both for-profit and non-profit organizations. Within the field of education, Hanover Research works with a diverse group of K-12 districts, colleges and universities, state departments of education, and other education agencies and organizations, supporting their research and planning needs through data analysis, literature reviews, surveys, and other custom research.

About ARC

The Arkansas Research Center (ARC) was founded in 2009 by a grant from the Institute of Education Sciences to the Arkansas Department of Education. ARC's goal is to support students, teachers, and school administrators by using student longitudinal data to provide essential information. Research is ongoing and enables top-notch curriculum development and learning opportunities for educators within the state. ARC currently works with the Arkansas Departments of Human Services, Education, Higher Education, Career Education, and Workforce Services to be a hub of P-20W information for the state.

1355 Dave Ward Dr.
Conway, AR 72034

P 501.852.2296
arc.arkansas.gov

4401 Wilson Blvd, 4th Floor
Arlington, VA 22203

P 202.756.2971 F 703.248.0022
www.hanoverresearch.com