




Women's Foundation
OF ARKANSAS



2012 EXAMINING THE FUTURE PLANS OF ARKANSAS HIGH SCHOOL GIRLS

This project and report was developed, administered and prepared by Clinton School of Public Service student Hilary Trudell (October 2011-March 2012).





THE FUTURE OF ARKANSAS WOMEN

PROJECT SUMMARY

In 2011, the Women's Foundation of Arkansas (WFA) set out to update the 1973 Report of the Status of Women in Arkansas. This report was commissioned by Governor Bumpers to explore, summarize and expose the current status of women in Arkansas in the early 1970s. The 1973 Report explored the status of women through the frames of employment, education, government and political participation, healthcare, family and child care, legal rights and public image (1973 Report of the Status of Women in Arkansas). The following report, entitled Examining the Future Plans of High School Girls in Arkansas: 2012, will serve as a supplement to the updated Report and will concentrate solely on the field of education.

Though the 1973 Report concentrates heavily on the absence or rarity of women employed in the education and higher education sectors, the commission preparing the report claimed to have “observed and received complaints about countless practices that narrow rather than expand the ambitions and expectations of Arkansas schoolgirls, and which inadequately prepare them for the real world in which they will live longer, have fewer children, and be more likely to work than preceding generations” (1973 Report of the Status of Women in Arkansas). A survey that the commission administered to students at sixteen schools revealed that the majority of Arkansas schoolgirls “were expecting only the traditional roles of wife and mother” despite the U.S. Bureau of Labor Statistics that “nine out of ten girls” in 1973 would “spend part of their lives in the labor force” (1973 Report). Further, the commission reported that “discriminatory practices” were prevalent in Arkansas schools as displayed through girls being encouraged to take home economic classes over shop classes, channeled towards dental hygiene over dentistry, and actually told they could not enroll in certain courses (1973 Report).

The following report explores how and if things have changed in terms of the plans of young women post-high school graduation, as well as the fields they plan to pursue and the fields they are being encouraged to pursue. The researcher paid significant attention whether or not young women were encouraged and/or planning to pursue careers in the male-dominated careers of economics, science, technology, engineering and math (ESTEM) fields. As the Women Foundation of Arkansas strives to “promote the academic achievement of Arkansas women and girls” and “encourage women and girls to improve skills in math, science and technology,” the status of women's education and participation in the ESTEM fields are examined and provided as context for this report.

To examine the current status of high school-age women in Arkansas in terms of their educational ambitions, the researcher developed a report based on surveys she administered to high school senior girls throughout the state. These surveys were designed to collect information on the young women's interests and future educational plans and goals post-high school graduation. The researcher also administered surveys to the counselors at the same schools to determine the counselors' perceptions of the girl's interests and goals and compare those with the responses of the students. The researcher compared her findings to the state and national statistics, and, finally, developed recommendations for the Women's Foundation of Arkansas on how to build upon this research and apply its findings to the advancement of young women in Arkansas.

EDUCATION OF GIRLS IN ARKANSAS: THE CURRENT STATUS

A 2010 Arkansas Factsheet compiled by Half in Ten: Restoring Shared Prosperity reports a high school graduation rate of 76.4%, ranking Arkansas 25th in the nation; yet, Arkansas is ranked 51st in the nation in terms of 25-34 year-olds with an associate's degree or higher, with only 27% of residents attaining this educational status (Half in Ten: Restoring Shared Prosperity, 2011). According to U.S. Census Bureau information from the 2008 American Community Survey, Arkansas residents between the ages of 25-64 holding only a high school diploma or equivalent was 35.2%, while residents achieving some college but no degree came in at 23.5% (U.S. Census Bureau, 2008 American Survey retrieved from "A policy brief from Lumina Foundation for Education"). The 2010 Comprehensive Arkansas Higher Education Annual Report states the "college-going rate for all Arkansas institutions" at 51.7% (2011).

In terms of gender, The National Center for Educational Statistics at the Institute of Education Sciences reports the high school drop-out rate amongst females at a relatively low 3.5% (Public School Graduates and Drop-outs From the Common Core of Data: School Year 2008-2009, Table 8). However, the college-going rate for females, as specified by the Comprehensive Arkansas Higher Education Annual Report, is 56%, compared to a 2009 national average of 73.8% (2011). A fact sheet compiled by the Institute for Women's Policy Research in Washington, DC, however, found that, in 2009, only 19% of all Arkansas women had a college education of four years or more – ranking the state 50th in the nation (Arkansas Factsheet, 2009). This report will concentrate on the low percentage of women obtaining a post-secondary educational degree and attempt to shed light on this phenomenon through examining the plans of young women the semester before graduation. This low statistic shows that even if there are fewer gender discriminations in Arkansas today, there is still a major problem with retaining women in the education system.

In today's economy, not having a college education can lead to less job opportunities and lower potential for wealth. An article published in the journal Higher Education in 2007 claims a "positive correlation between higher levels of education and higher earnings for all racial/ethnic groups and for both men and women" (Baum and Ma, 2007). The article insists that "students who attend institutions of higher education obtain a wide range of personal, financial, and other lifelong benefits; likewise, taxpayers

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and society as a whole derive a multitude of direct and indirect benefits when citizens have access to postsecondary education" (Baum and Ma, 2007). Yet, despite the fact that the college-going rate for females in 2010 was 56% compared to 47.1% for men (2011 Annual Comprehensive Report, Arkansas Department of Higher Education), a briefing paper from the Institute for Women's Policy Research states that "women still earn less, are less likely to have a Bachelor's or professional degree, or to own a business, and are more likely to live in poverty than men across the states" (The Best and Worst State Economies for Women, December 2006).

As all education, and especially the education of women, is important for the growth and health of a community's well-being and economy, the existing problem in Arkansas of so few women having a four-year degree is unsettling. This is primarily because "a college education continues to be the key to earning higher wages in Arkansas" (Arkansas Advocates for Children and Families, The State of Working Arkansas, 2011). Further, the reciprocal positive effects of students of any state obtaining an associates, bachelors or master's degree can include higher earnings, new job development, and increased state tax revenue for that state (Alliance for Excellent Education, Arkansas High Schools, 2012). A state report conducted by The Georgetown University Center on Education and the Workforce states that "52% of all jobs in Arkansas (750,000 jobs) will require some postsecondary training beyond high school in 2018," while a report from the National Center for Higher Education Management Systems holds that though "more students complete high school in Arkansas than the national average, of these students, fewer enroll in college directly out of high school compared to the nation" (Help Wanted, 2010 and Increasing the Competitiveness of the Arkansas Workforce for a Knowledge-Based Economy, 2011). The economic benefits and necessity to advance educationally as a state are reason enough to encourage the post-secondary education of men and women alike.



WOMEN IN THE ESTEM FIELDS

The question of how much things have changed for young women since 1973 in terms of subjects they are encouraged to study is also important in determining the jobs that Arkansas women eventually pursue or fall into. According to the White House Council on Women and Girls' Women in America: Indicators of Social and Economic Well-Being report of March 2011, the common professions of women continue to be concentrated in a small cluster of occupations including "secretaries, registered nurses, elementary school teachers, cashiers and nursing aides" (Women in America, 2011). The report states that "women have long earned the great majority of degrees conferred in health and education fields, especially nursing and teaching at the primary and secondary levels" (Women in America, 2011). Further,



the likelihood of women pursuing “lower-paying job” within the professional fields of education and healthcare were 70% in 2009, compared to 32% for men (Women in America, 2011). However, “only 7 percent of female professionals were employed in the relatively high paying computer [...] and engineering fields [...], compared to 38 percent of men” (Women in America, 2011). This report states that “women earn less than half of all bachelor’s degrees in mathematics and physical sciences, as well as in engineering and computer sciences” (Women in America, 2011). Finally, women earn “less than 20 percent” of engineering and computer science degrees; a percent that has decreased over the past decade and is consistent in the U.S., as well as globally (Women in America, 2011). In addition to more equal representation needed in these fields, more overall involvement in the ESTEM fields will prove beneficial for Arkansas’ economy. In a 2011 report from the National Center for Higher Education Management Systems, authors claim that “increasing the number of bachelor’s degrees, especially in the critical fields of science, technology, engineering and mathematics (STEM) must be a priority if [Arkansas] is to make the transition to a knowledge-based economy” (Increasing the Competitiveness of the Arkansas Workforce for a Knowledge-Based Economy, 2011).

METHODOLOGY

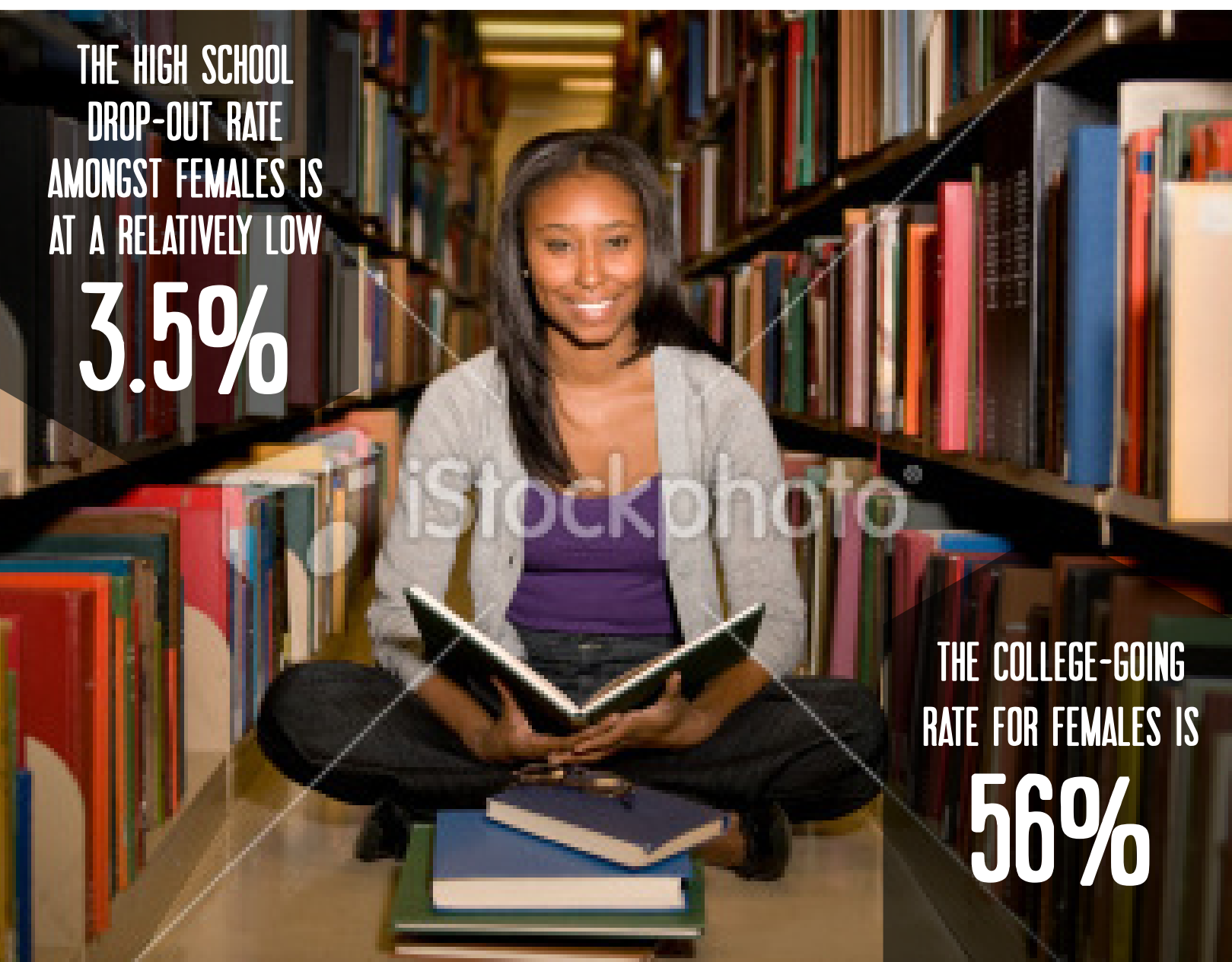
Researching Existing Data

The first portion of this study included researching existing information to identify the occurrence of students dropping out of school or terminating their educational pursuit. The researcher studied information in four areas: high school drop-out rates, the percentage of Arkansans with only a high school diploma, the percentage of Arkansans with some college learning and the percentage of Arkansans with a bachelor’s degree or higher. To study this information in depth, she analyzed data maps from the Institute for Economic Advancement at the University of Arkansas Little Rock (<http://argis.ualr.edu>). These maps were not divided by gender but the data showed a statewide drop-out rate of 4.6% and percentage of Arkansans (25 years or older) with a bachelor’s degree at 12.8% (<http://argis.ualr.edu>) Percentages of this population holding an associate’s degree and graduate or professional degree were shown at 5.8% and 6.4% respectively (<http://argis.ualr.edu>). Interestingly, the highest percentages were amongst the population with only a high school diploma and those who had completed some college but not obtained a degree – 35.5% and 21.6% respectively (argis.ualr.edu). From this data, the researcher honed in on the period between graduating high school and graduating college.

The First Surveys

Once the researcher had decided upon a specific period to study on the educational spectrum, she developed surveys to distribute at a state-wide school counselor conference in Hot Springs. This survey was very general and asked open-ended questions concentrating on the queries of whether or not high school girls planned on going on to college and what they planned on studying. The survey also contained a question intended to illicit the counselor’s opinion on why they thought young women dropped out of high school. The researcher developed these survey questions in order to inform her student survey as well as gain insight into what (if any) career fields counselors were encouraging female students to pursue. Over 100 surveys were distributed, only 30 were returned. The answers to many of the questions aligned with the current state data; including the fact that when asked what fields they believed senior girls intended to pursue after graduation, the majority of counselors listed nursing and teaching. This information compelled the researcher to put an emphasis on what the girls wanted to study and why, in addition to an emphasis on if they wanted to continue to pursue their education after high school.

INCREASING THE NUMBER OF BACHELOR’S DEGREES, ESPECIALLY IN THE CRITICAL FIELDS OF SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) MUST BE A PRIORITY IF [ARKANSAS] IS TO MAKE THE TRANSITION TO A KNOWLEDGE-BASED ECONOMY.



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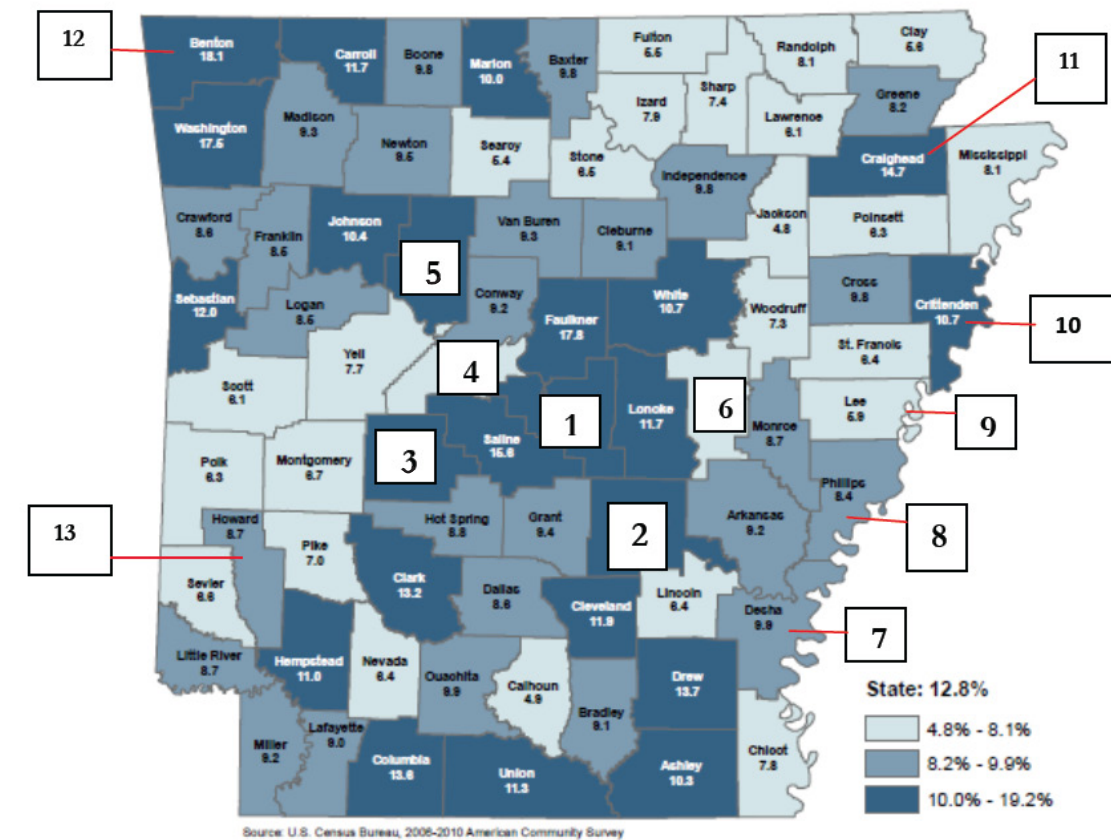
THE COLLEGE-GOING
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56%

RESEARCH FINDINGS

Data Summary: Totals

The following data represents the totals taken from the findings of 492 surveys collected from 19 schools. Data shows the highest number of surveys coming from Russellville, Jonesboro and Arkansas School for Math, Sciences and the Arts; with the majority of responses coming from students who identified to be Caucasian or Black/African-American. Of all students surveyed, the highest percentages plan to attend a four-year college/university, particularly in-state. While favorite subjects of participants are English and Math, the majority of students responded to wanting to go into the ESTEM fields - especially the field of nursing. The factors that participants claim have influenced their future plans and career fields of choice are shown to be their family and/or friends, their passion and/or interests, and their desire to help and/or make a difference.

FIGURE 1A: Total Surveys Received per School (492 total surveys received)



#	County	School(s)	% High School Graduate or Higher	% Bachelors Degree or Higher
1	Pulaski	Central, Hall, Joe T. Robinson	88.7%	30%
2	Jefferson	Pine Bluff High	81.9%	17.8%
3	Garland	ASMSA, Fountain Lake High	84.3%	17.9%
4	Perry	Perryville High	81.8%	9.2%
5	Pope	Russellville High	83.5%	19.2%
6	Prairie	Des Arc High	78.1%	12.2%
7	Desha	Dumas High, McGeehee High	70.9%	11.4%
8	Phillips	KIP Delta Collegiate	72.4%	11.5%
9	Lee	Lee High	75%	9.3%
10	Crittendon	Earle High	77.3%	15%
11	Craighead	Jonesboro High	84.5%	23.2%
12	Benton	Rogers High, Decatur High	84.3%	23.6%
13	Howard	Nashville High, Mineral Springs High	77.6%	12.4%

(Data Source: U.S. Census Bureau, 2005-2009 American Community Survey)

Participating Schools by County (*Note: This table includes the percentage of women (25 years and older) holding a high school diploma or higher vs a bachelors degree or higher. U.S. Census, 2005-2009 Community Survey)

The Final Surveys

Because of the vast disparity of educational achievement throughout the state of Arkansas, the researcher decided upon a survey as a data-collecting tool that could collect the most information from the most number of students in the time available. Based on her research and feedback based on the previous survey, the researcher set about developing surveys to administer through the Arkansas public school system. These surveys consisted of a primary survey developed to gather information from high school senior girls in schools all over Arkansas and a supplemental survey for high school counselors and one intended for the parents of the young high school-age women. The counselor survey was similar to that administered previously. The student survey consisted of questions asking about the young women's favorite subjects in school, educational plans, intended career paths and intended majors. Both surveys were approved by the Institutional Review Board at the University of Arkansas, Fayetteville. A copy of both surveys may be found in Appendix I of this report.

Once the surveys were developed, the researcher met with Women's Foundation Executive Director, Lynnette Watts to identify where to distribute the surveys. Ms. Watts and the researcher decided on ten schools in portions of the state varying in education level based on the GIS maps displayed below and in Appendix II (<http://argis.uar.edu>). Though an equal balance of educational degree was maintained, this number of schools grew to twenty-two based on a poor return rate from some areas. All schools chosen were public, with the exception of one charter school (KIPP Delta) and one residential school which emphasizes math and sciences (Arkansas School for Science, Math and the Arts). These schools were included to identify and examine differences in responses. The researcher manually delivered, administered and collected surveys to and from the majority of these schools. About one third of schools returned their completed surveys by mail and three schools did not return their surveys before the compilation of results. The final research findings included in this report are based on 492 surveys completed by graduating high school senior females collected from 19 Arkansas high schools. Participating schools are shown below in Table 1, with reference to the GIS map shown in Map 1 on the following page.



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FIGURE 1A: Total Surveys Received per School (492 total surveys received)

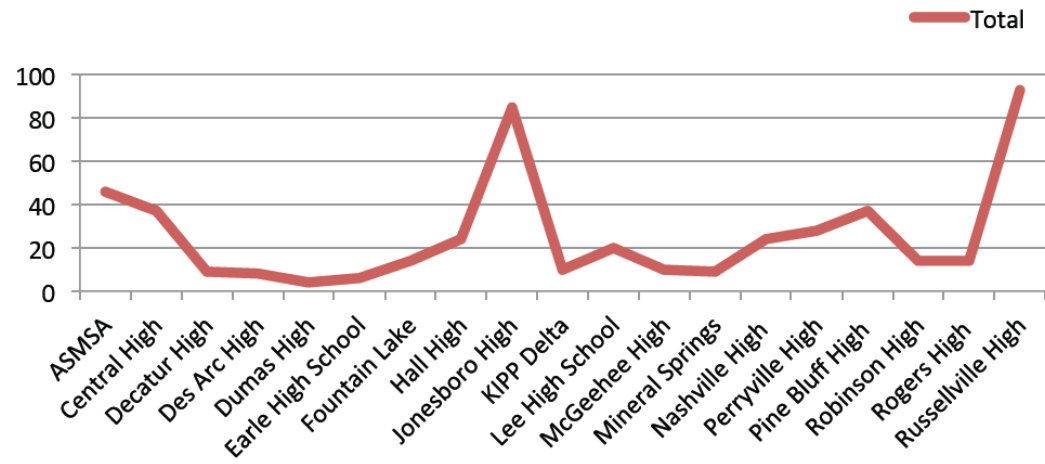


FIGURE 1D: Future Plans: Totals

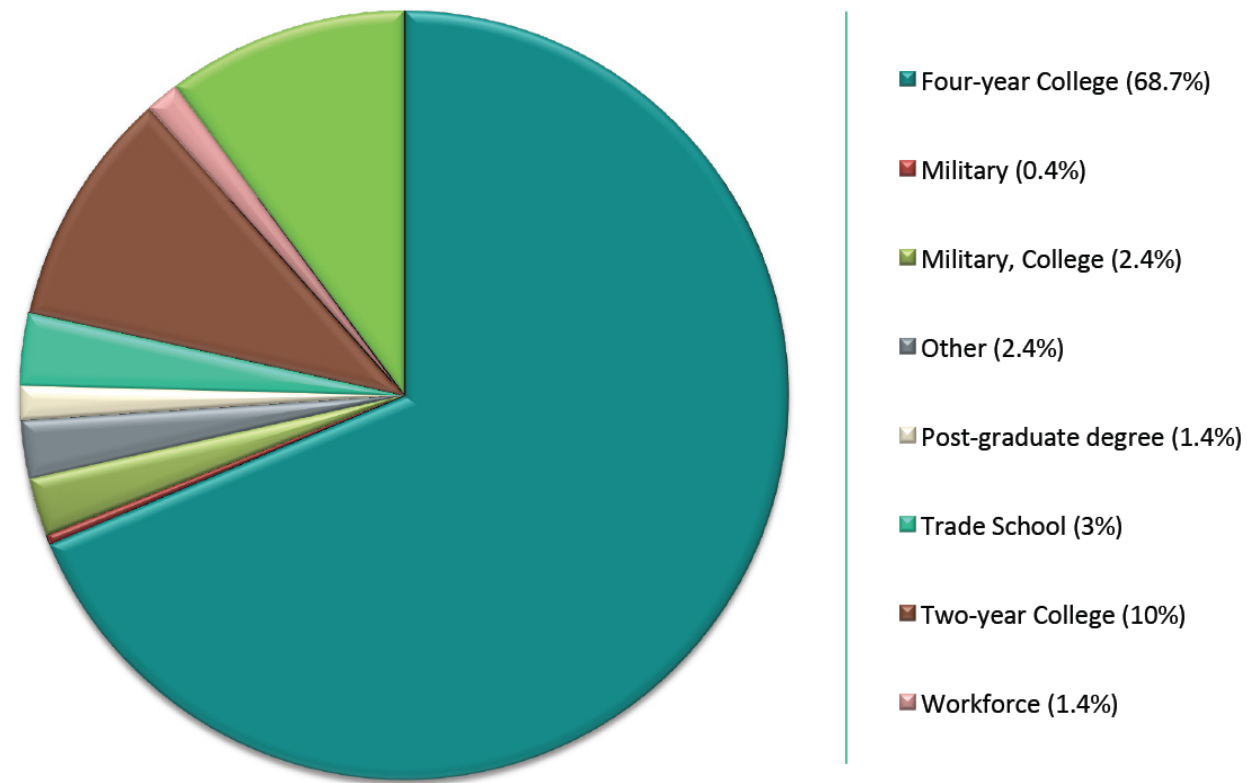


FIGURE 1B: Survey Participant Race:

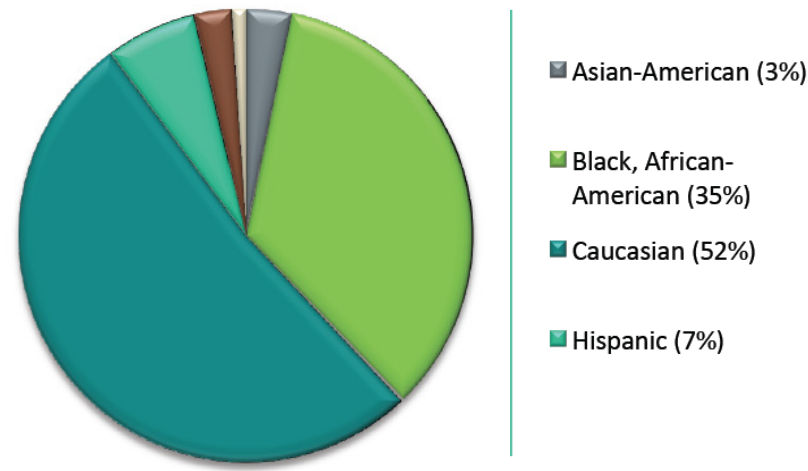


FIGURE 1C: Favorite Subjects: Totals

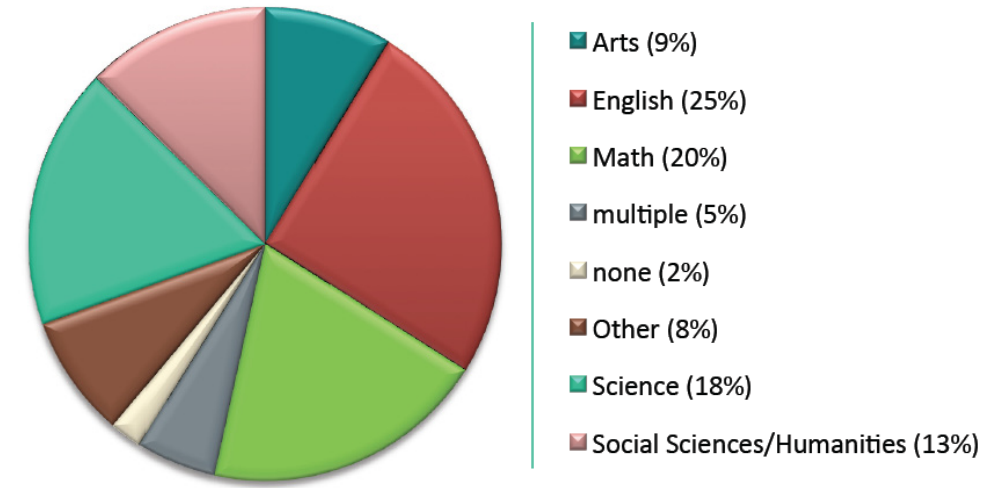


FIGURE 1G: Planned College Location: Totals

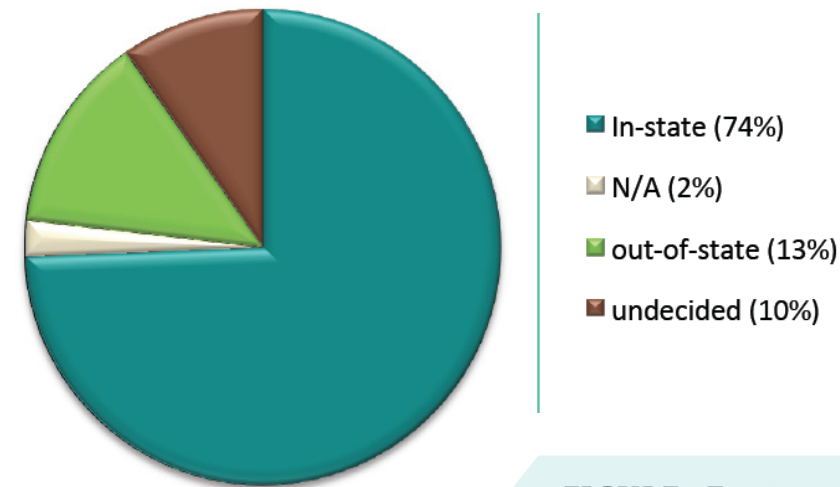


FIGURE 1E: Influencing Factors of Future Plans: Totals

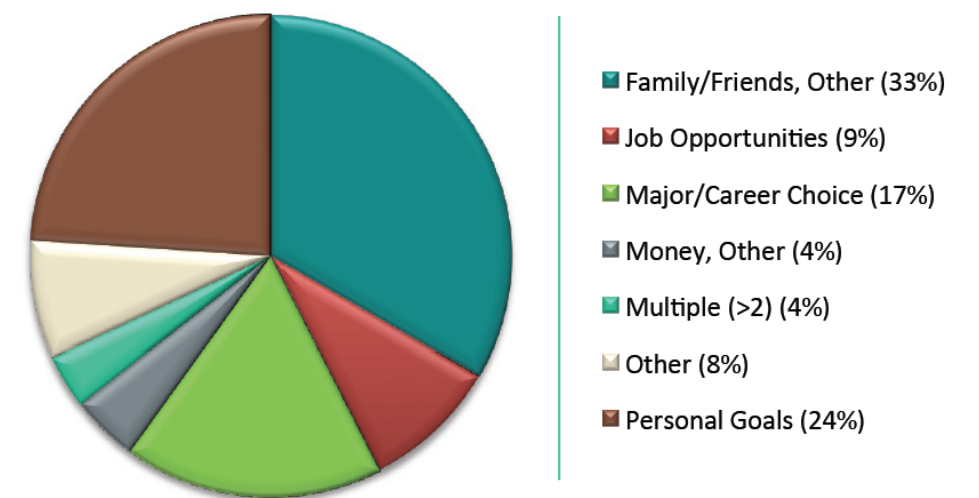


FIGURE 1E (2): Breakout (Influencing Factors): Family/Friends, Other (Based on 164 surveys or 33% of total)

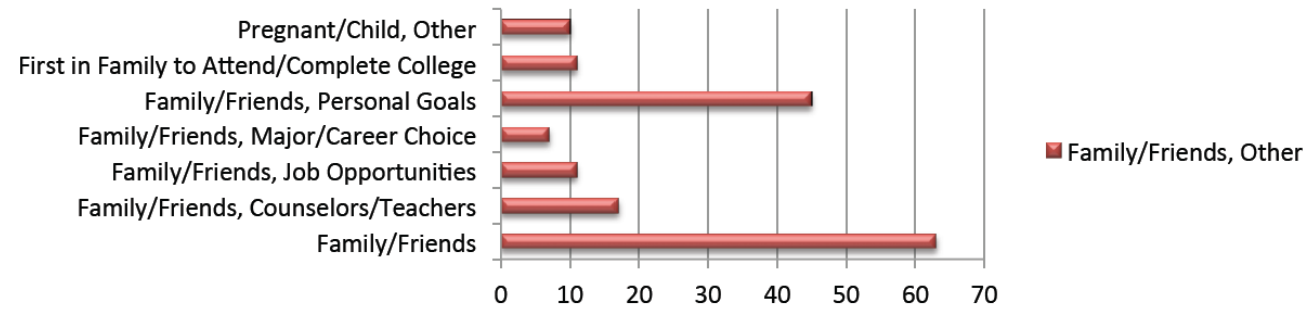
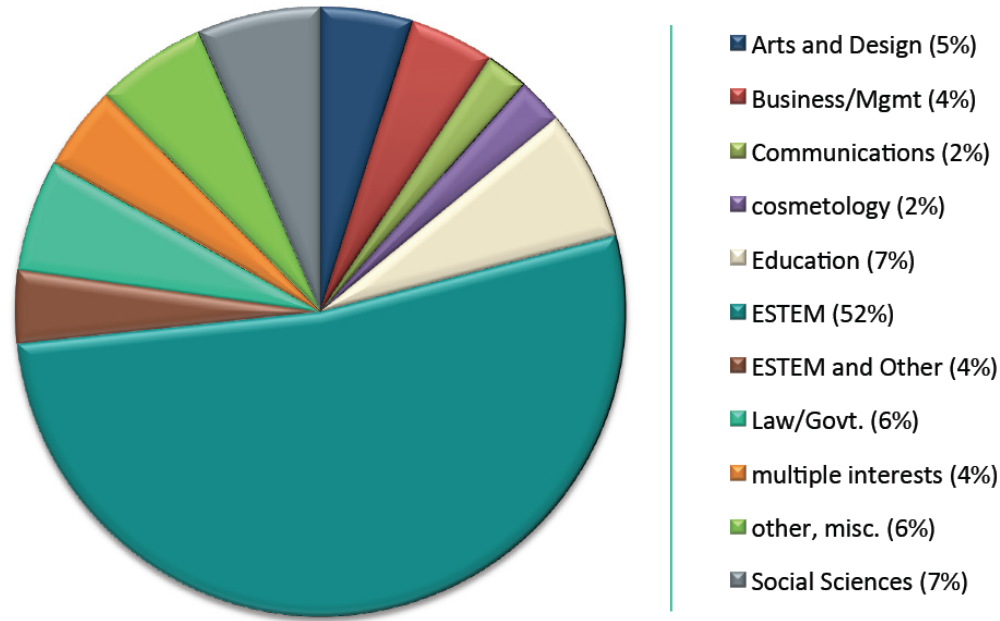


FIGURE 1F: Career Fields of Interest: Totals



FFIGURE 1F(2): Breakout (Survey Participant Totals by Career Fields of Interest) ESTEM

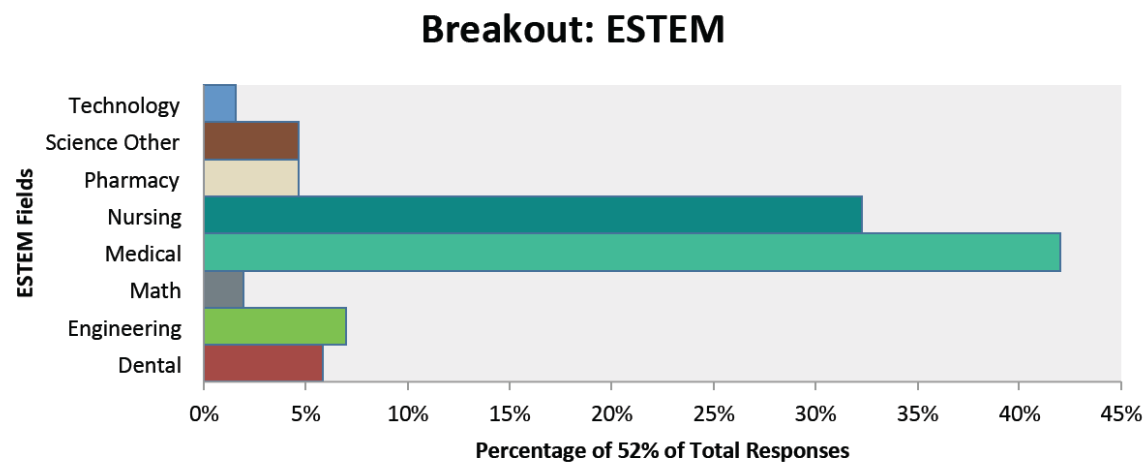


FIGURE 1G: Contributing Factors to Fields of Interest: Totals

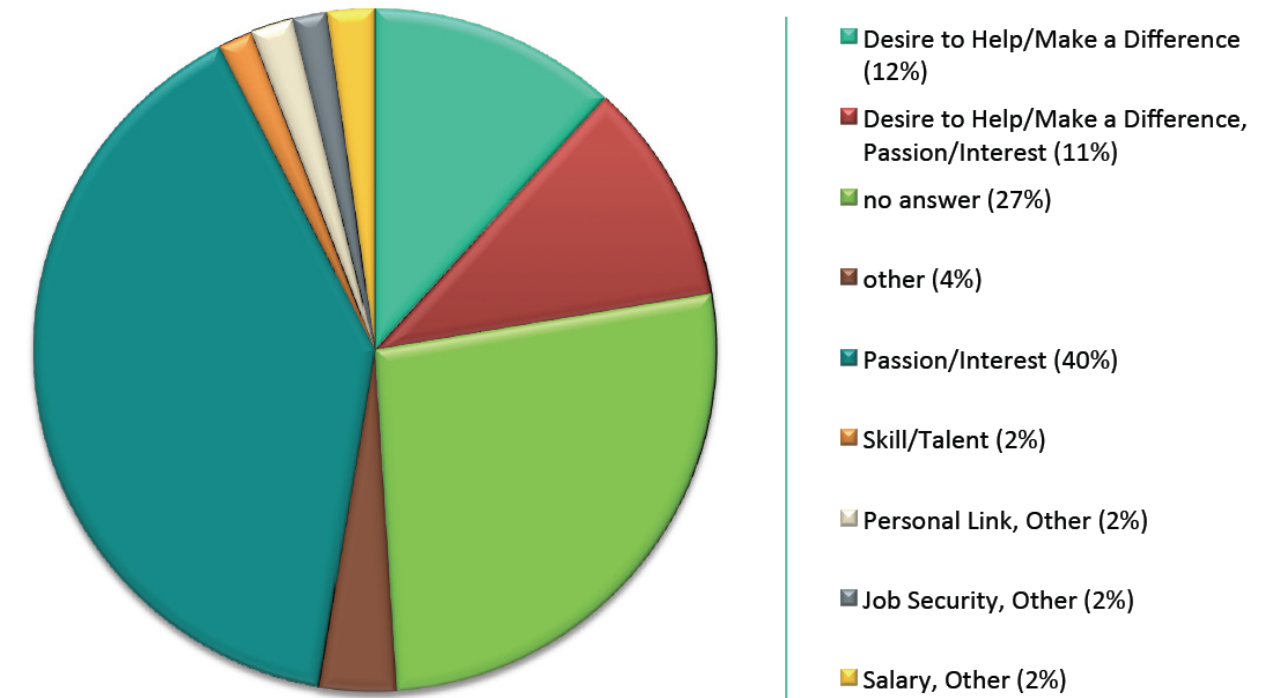
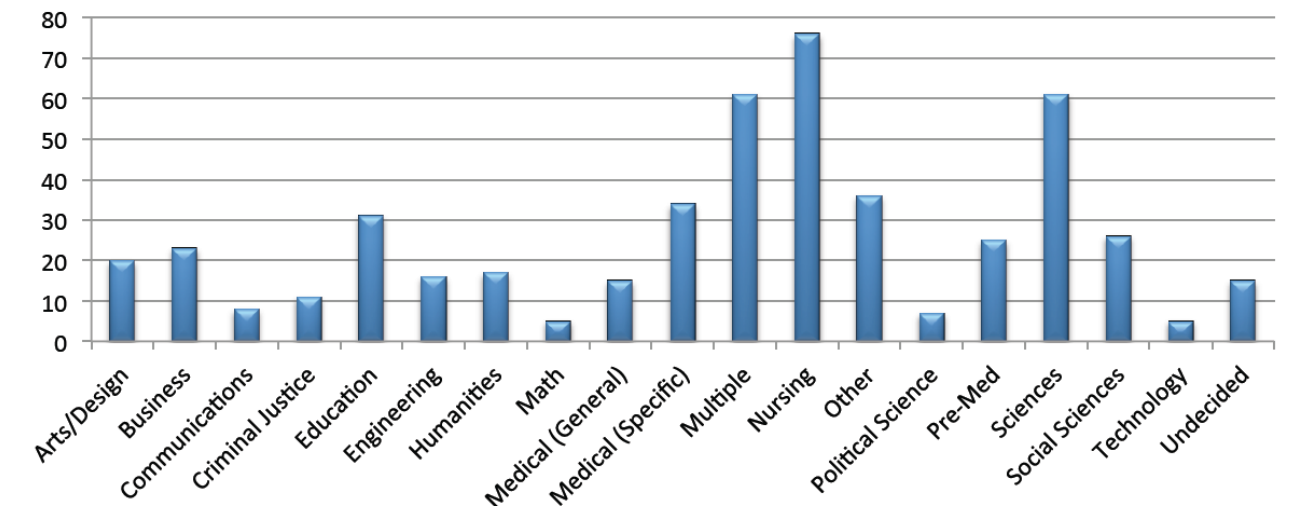


FIGURE 1H: Intended Majors: Totals



RESEARCH FINDINGS

Data Summary: Regions

The following data represents the totals taken from the findings of 492 surveys collected from 19 schools broken down by region. The following data shows that the majority of participants of this survey reside in the Central and Northwest regions of the states. The discrepancies between location of caucasian and black/African-American participants can be seen in Figure 2b. Some interesting findings include the fact that participants in the Central region were second most-likely (behind the Delta) to specify math as their favorite subject, yet no students from this region specified wanting to pursue a degree in this field. Participants from the Southwest area of the state prefer their science courses to all others, are most likely to plan to attend a four-year college, and are more likely to pursue a career in the ESTEM fields than any other region. (*This finding could partially be explained through the inclusion of the Arkansas School for Math, Science and the Arts in this region.) More participants from the Delta region plan to attend a four-year institution following a two-year institution, and were more likely to specify their personal goals as reasons for their future plans and career goals. Participants from the Delta were the least likely to specify the arts as their favorite subjects or intended fields of interest.

FIGURE 2A: Survey Participant Totals: by Region

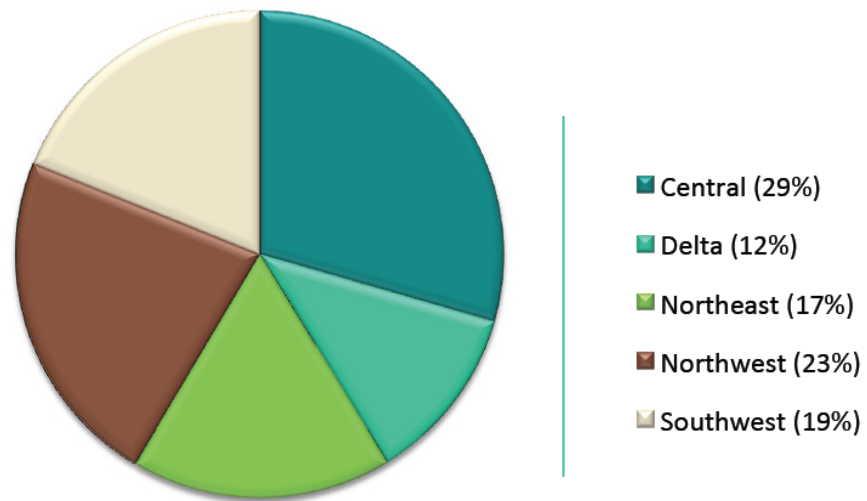


FIGURE 2B: Participant Race: by Region

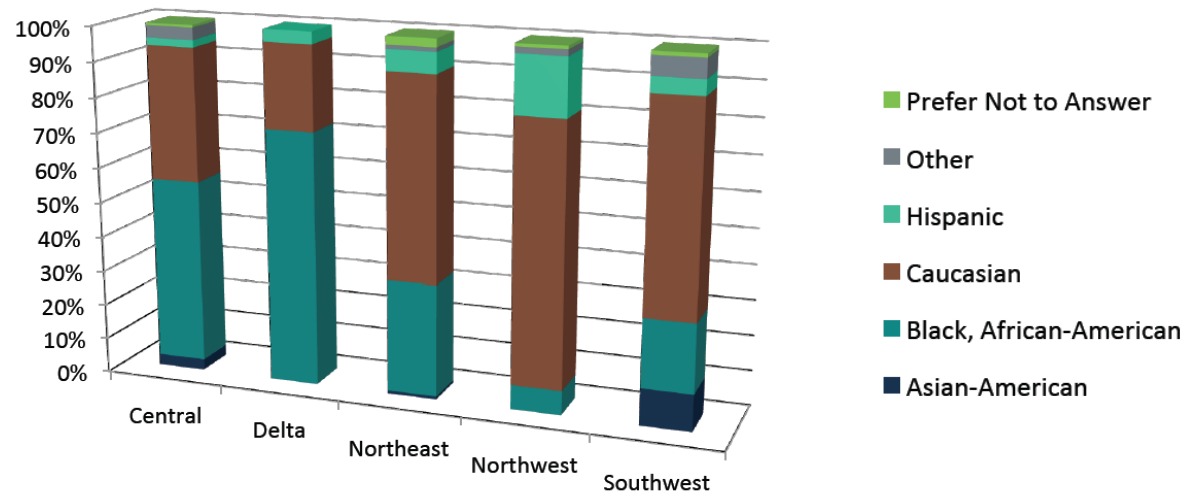


FIGURE 2C: Favorite Subject: by Region

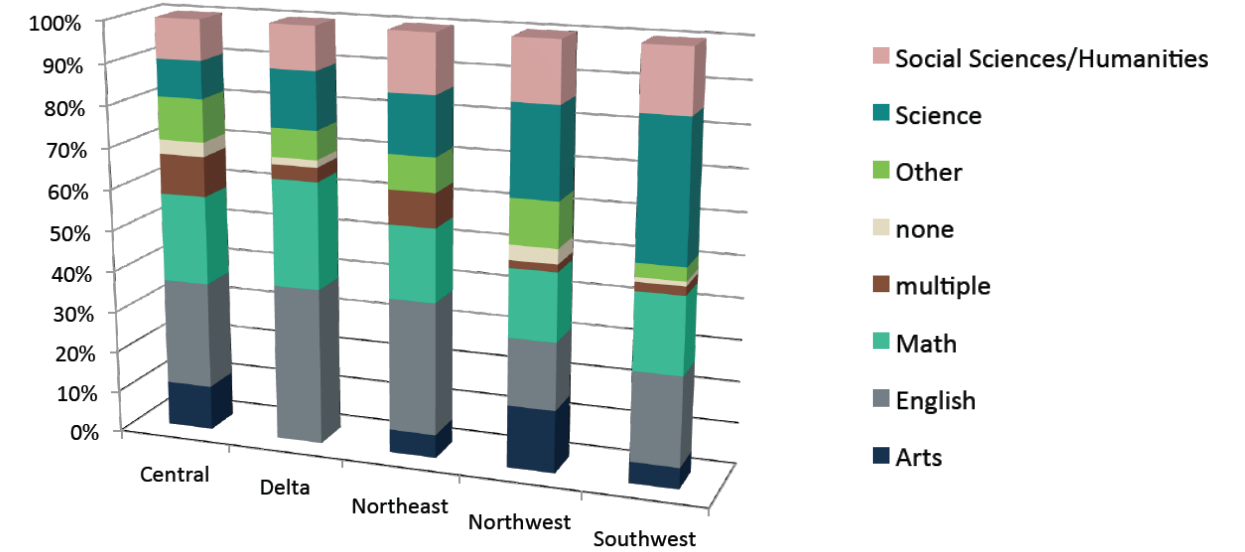


FIGURE 2D: Future Plans: by Region

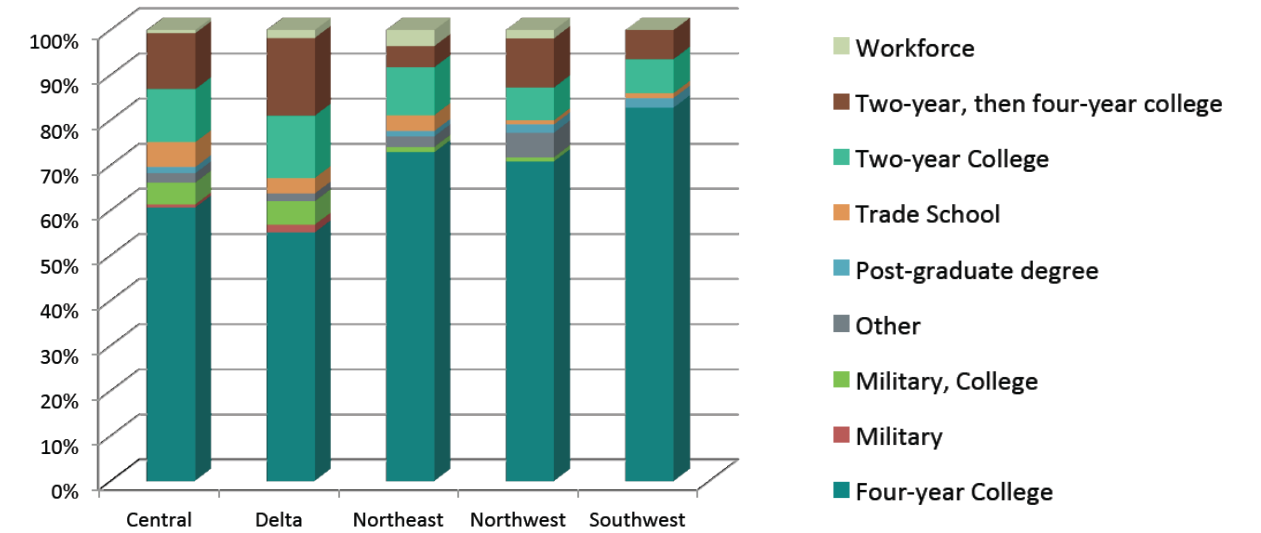


FIGURE 2E: College Location: by Region

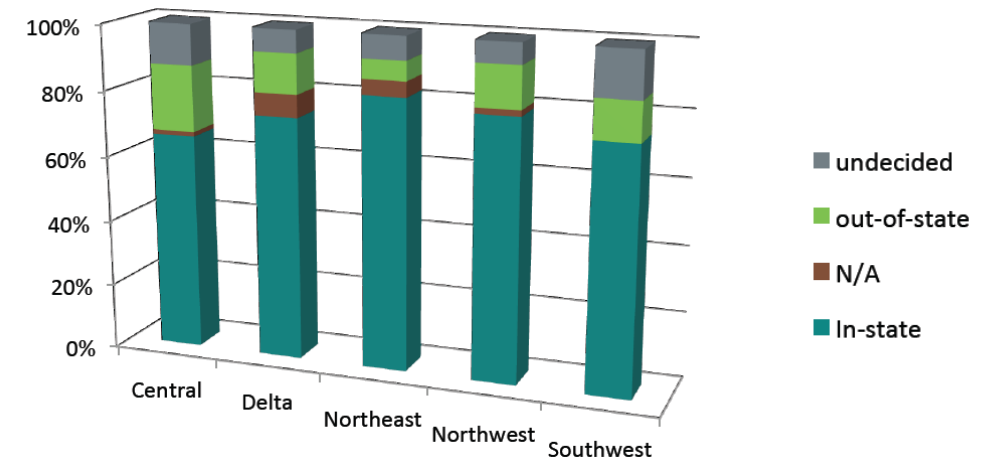


FIGURE 2F: Influencing Factors of Future Plans/College Location: by Region

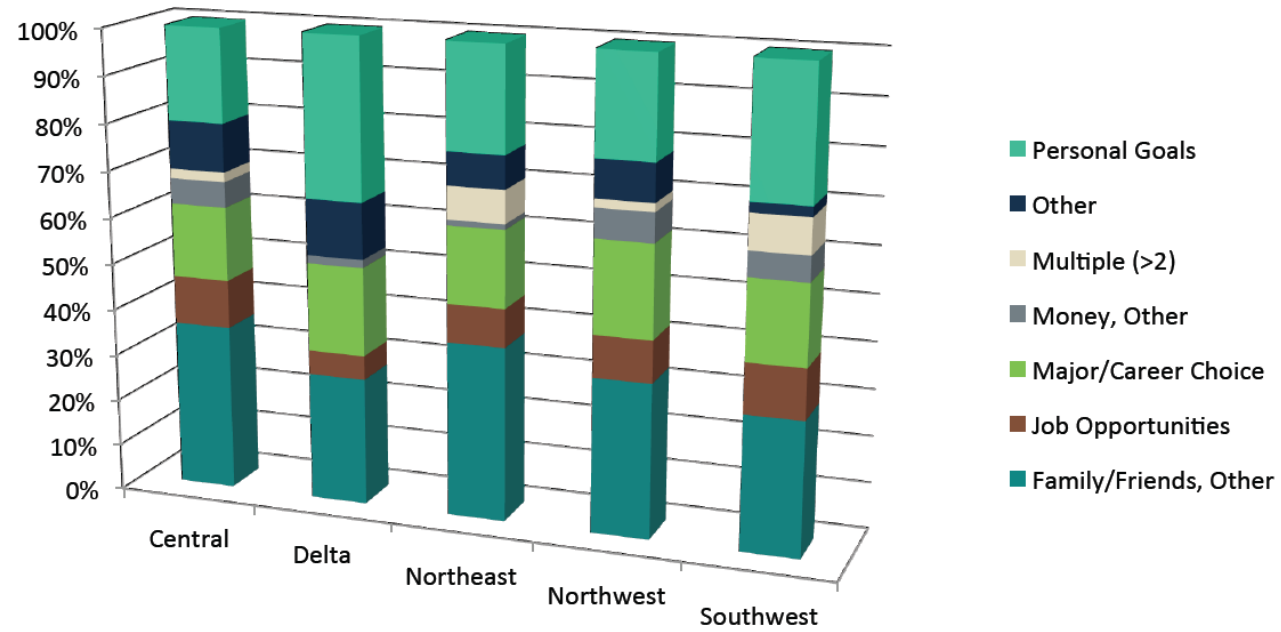


FIGURE 2H: Contributing Factors to Field of Interest: by Region

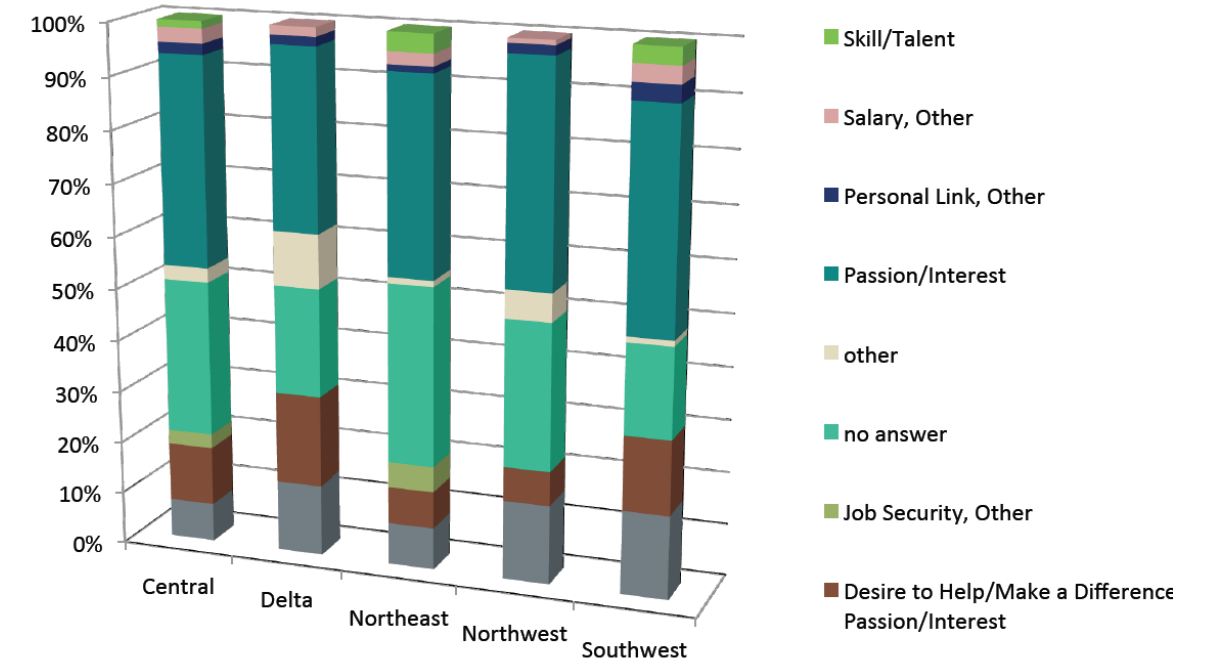


FIGURE 2G: Field of Interest: by Region

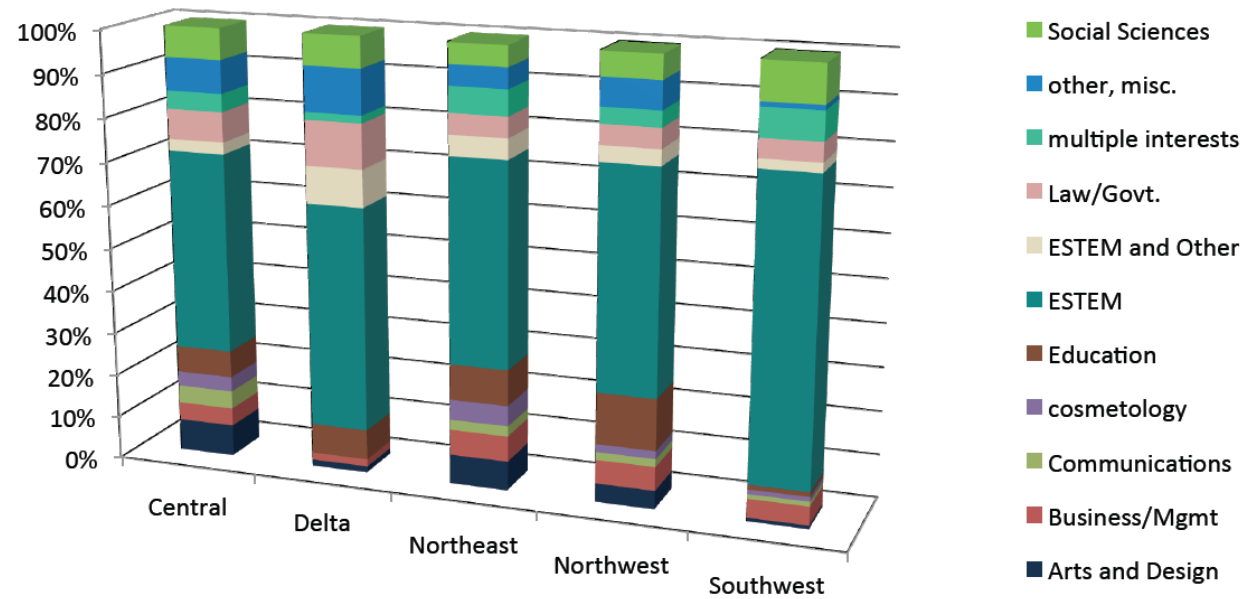


FIGURE 2I: Intended Majors: by Region

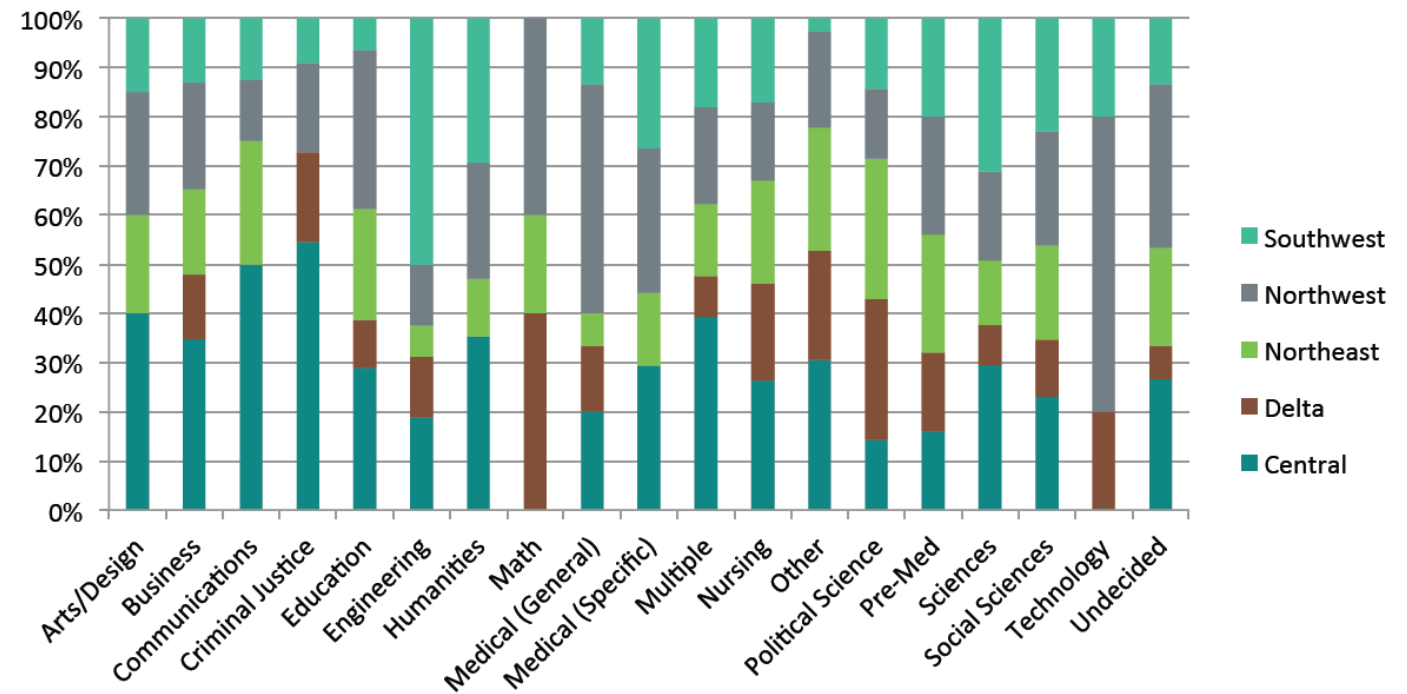


FIGURE 3D: Intended College Location: by School

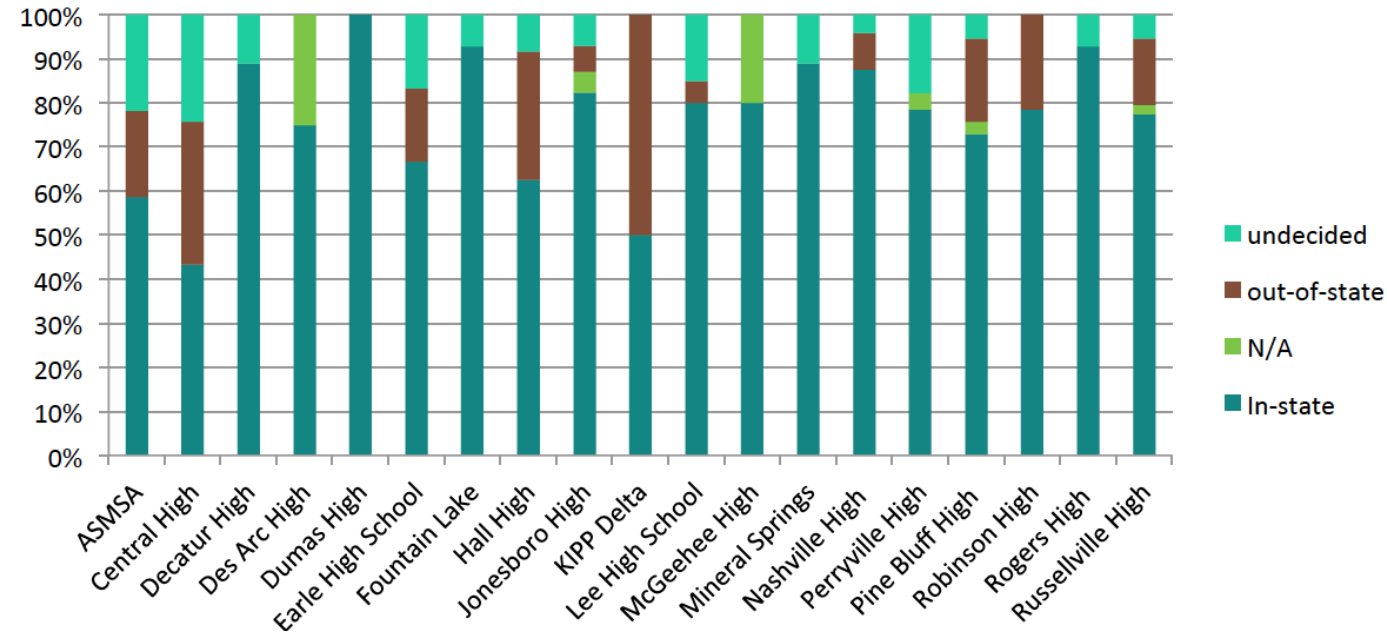


FIGURE 3E: Influencing Factors of Future Plans/College Location: by School

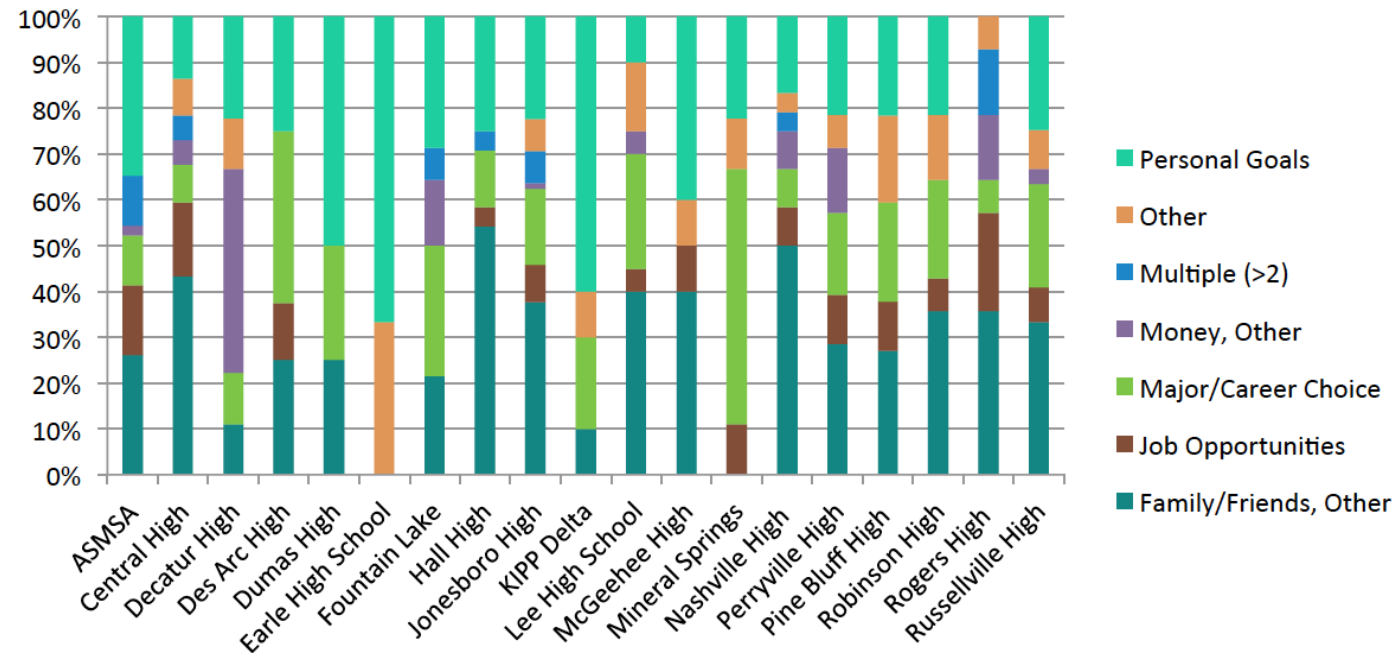


FIGURE 3F: Field of Interest: by School

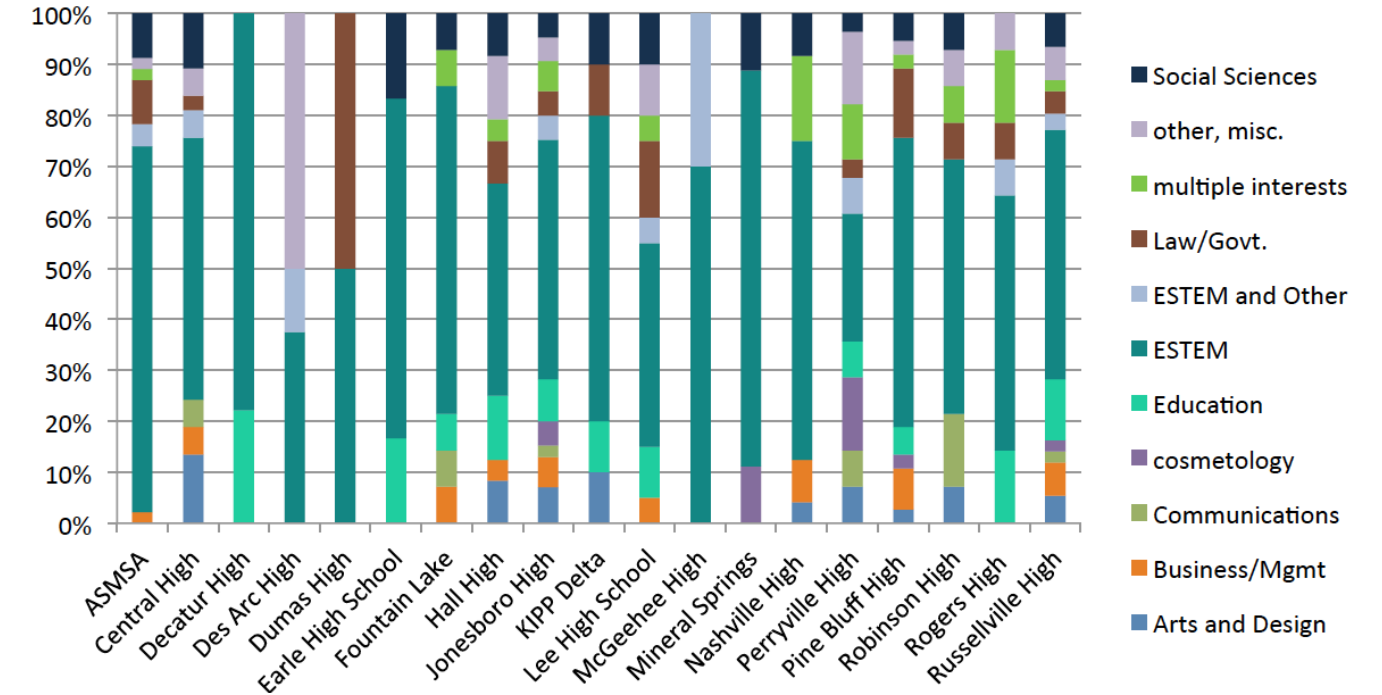


FIGURE 3G: Contributing Factors to Field of Interest: by School

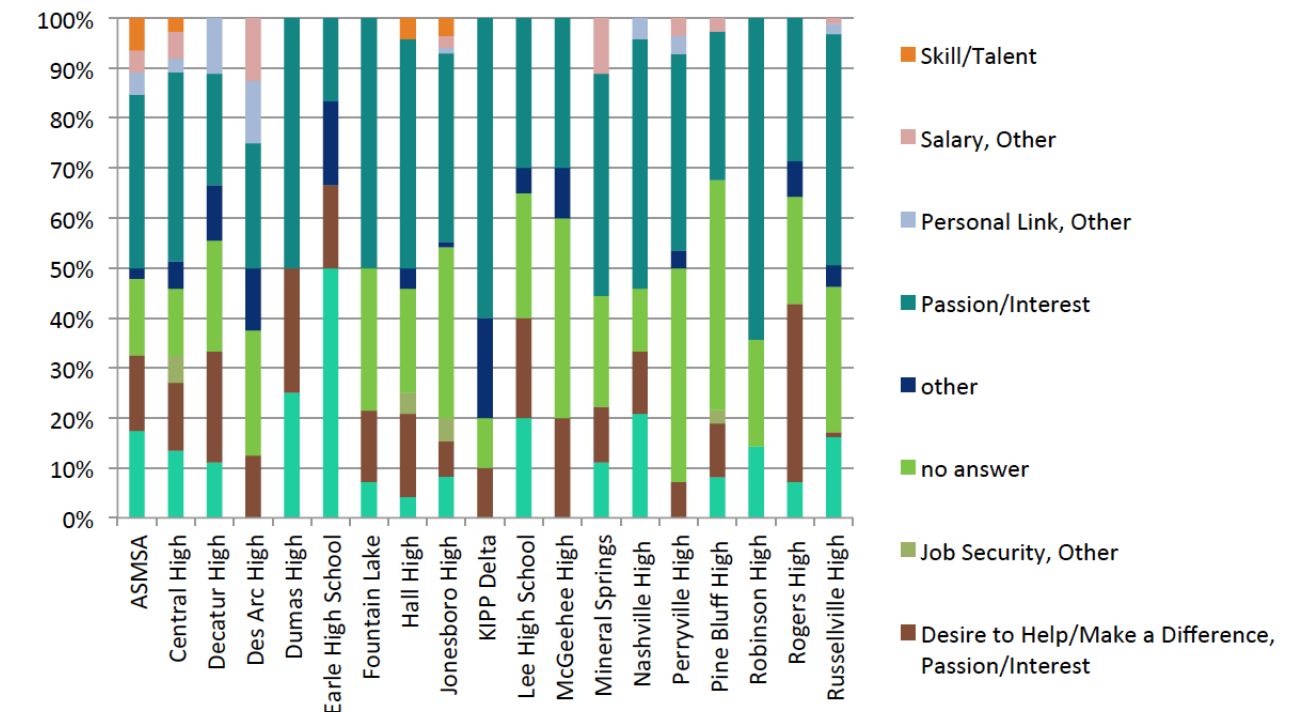
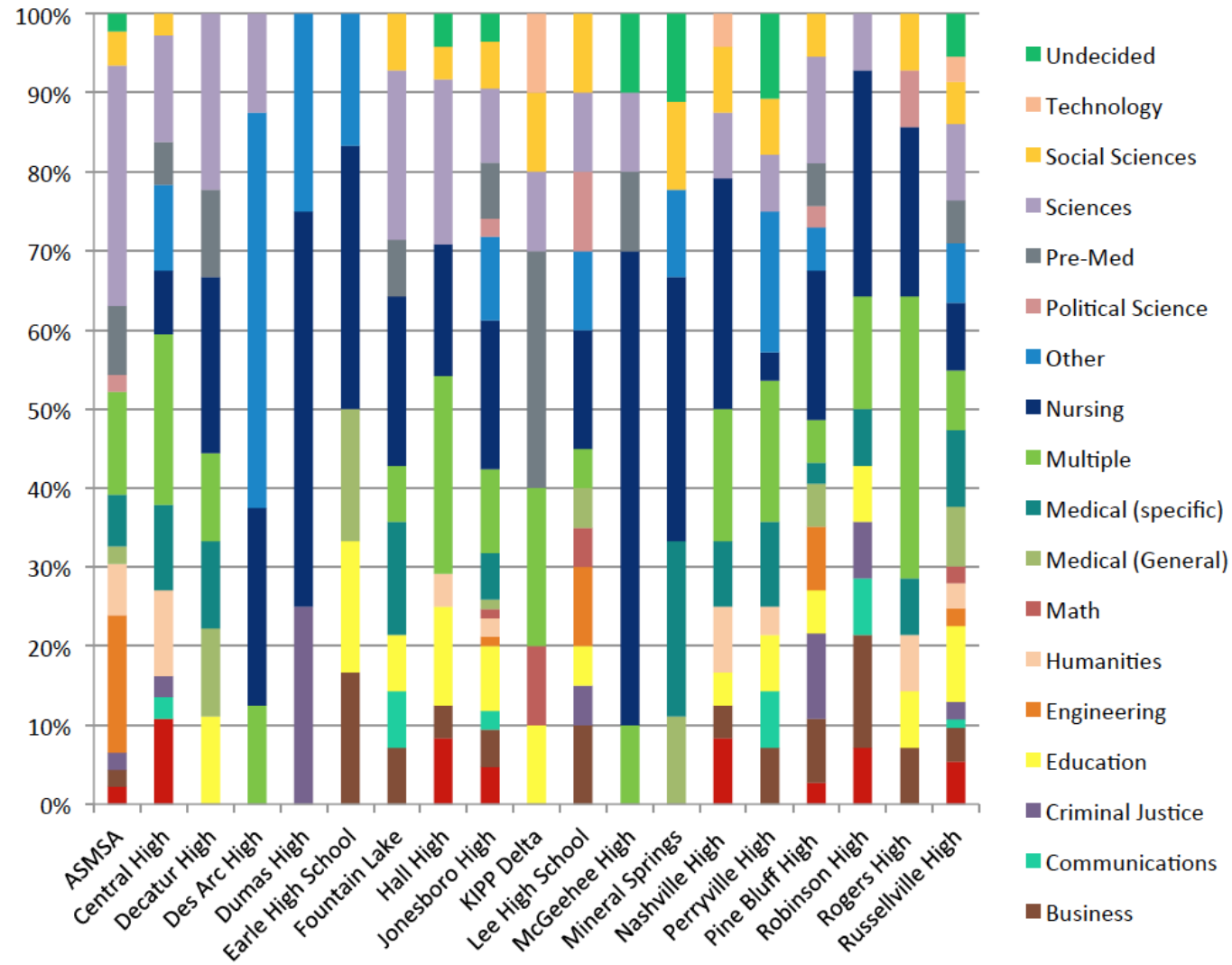


FIGURE 3H: Intended Major: by School



Based on the answers to the questions: “What subjects have administrators, counselors, and teachers at your high school encouraged you to study in college?” and “What subjects have your parents or guardians encouraged you to study in college?” many participants are being encouraged to pursue at least one class that correlates with the ESTEM fields (math, science, engineering), but in some cases are not being encouraged in any specific fields at all. In the below Figure 4a, the ESTEM category was given to a participant’s response if any of the subjects they were being encouraged to pursue were courses needed for the ESTEM fields. Of the 31% of participants who answered that their counselors, teachers or administrators had encouraged them to pursue subjects pertaining to the ESTEM field, 14% of those specifically stated they were being encouraged to pursue nursing as one option. Twenty-five percent (25%) of respondents either left this field blank or specified that they had not been encouraged to pursue any fields, while 14% of participants answered that counselors, teachers and administrators had encouraged them to pursue the field of their interest. Of the 43% of participants who responded that their parents or guardians had encouraged them to pursue at least one ESTEM field or subject; of this percentage, 24% were encouraged to pursue nursing as at least one option.

FIGURE 4A: What subjects/fields have teachers, counselors and administrators encouraged students to pursue?

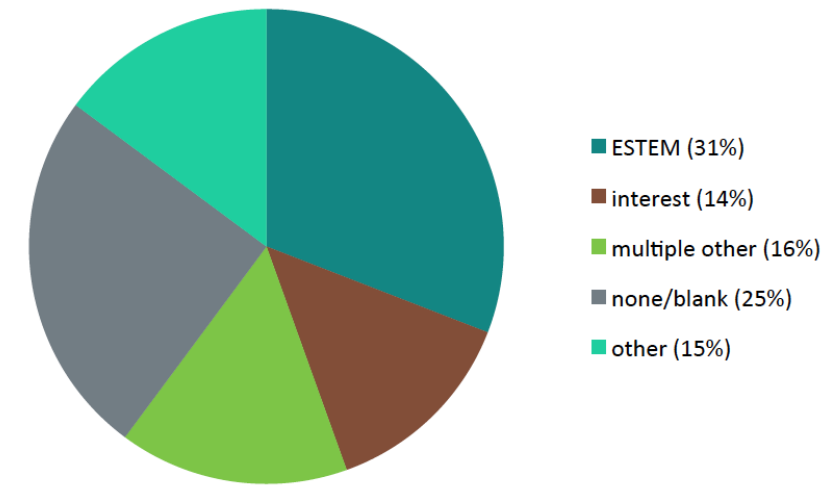
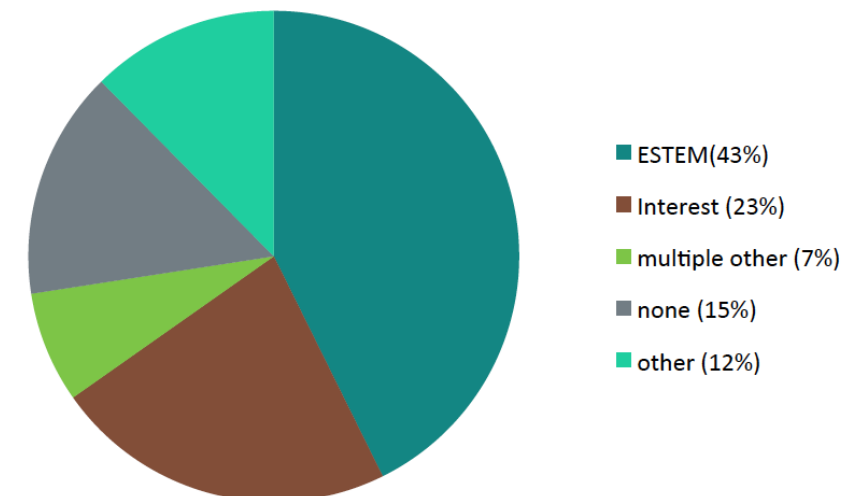


FIGURE 4B: What subjects/fields have parents/guardians encouraged students to pursue?



COUNSELOR SURVEYS

Of the nineteen participating schools, the researcher received twenty-three surveys from thirteen schools. All but one participant replied “yes” when asked if in her/his experience the majority of young women pursue a college education after high school. Several reoccurring reasons counselors gave for why these young women decide to go on to pursue a post-secondary education include: the desire to improve their lives financially by finding better paying jobs, the desire to achieve their career goals, and the expectations and encouragement from their family. When asked about the reasons that many young women do not pursue a post-secondary education, counselors gave the following reoccurring reasons: lack of motivation and/or support from their families, cost of college attendance and/or the ability to make money by joining the workforce directly out of high school, and starting a family to name a few. When asked what fields young women pursue, counselors responded with a variety of different fields but replied nursing, the medical/health field and education more often than any other field. The field of business was also stated several times. Finally, when asked, in their experience, why young women drop out of high school, counselors gave the following reoccurring answers: pregnancy, lack of motivation, lack of parental support and the inability to “catch-up” after failing too many courses.

LIMITATIONS OF RESEARCH

Though the findings of this research does give interesting insight into the future plans of Arkansas high school women and the viewpoints of high school counselors, it is important to note that this data does not represent the plans or views of all high school seniors in the state or in each specific participating school. Therefore, despite that fact that 68.7% of participants replied that they were planning on attending a four-year college, it is important to pay close attention to those who responded that they were not planning on pursuing this path and why. These students could represent a larger proportion of students

than is seen here due to the possibility that the students who did not complete and return the survey are students who are not planning on attending a post-secondary education after high school. The data-collecting format for this study was also limiting, as it prevented the researcher from going into greater depth as to why participants chose one field of study over another (i.e. nursing over physician). Inferences can be drawn, but a more in-depth examination of this phenomenon is recommended.

WHEN ASKED WHAT FIELDS YOUNG WOMEN PURSUE, COUNSELORS RESPONDED WITH A VARIETY OF DIFFERENT FIELDS BUT REPLIED NURSING, THE MEDICAL/HEALTH FIELD AND EDUCATION MORE OFTEN THAN ANY OTHER FIELD.



RECOMMENDATIONS

Focus funding and programming towards testing/tutoring program for high school-age women.

Arkansas has a very high remediation rate. Amongst first-time students entering public institutions of post-secondary education in the fall of 2009, over half (54.6%) were remediated – this rate is up 3.3 percentage points from 2008 (2010 Annual Comprehensive Report, Arkansas Department of Higher Education). A report released by the Alliance for Excellent Education sites that in 2011, the percentage of Arkansas “ACT-Tested Graduates ready for college-level course work” landed at 61% for English, 33% for Math, 44% for Reading, 21% for Science and only 17% of tested students were ready for college-level work in all of these areas (Arkansas High Schools, 2011). For a graduating population of women, the majority of which plan to pursue careers in the ESTEM fields, these percentages are unsettling. Despite the fact that a relatively high percentage of high school women participating in this study plan to attend college, efforts must be made to ensure these women are ready. Pre-testing and tutoring programs should be prevalent in Arkansas schools to provide students with the educational support they need prior to entering both two-year and four-year colleges.

Provide students with mentors in professional fields of their interests.

Based on statistics that women are more likely to go into the lower-ranking positions of the professional fields, the researcher recommends pairing students with mentors from different professional fields. This pairing could provide exposure to different fields and/or higher-ranking fields within the realms of student interests, but could also provide the important element of external encouragement that some students lack. Based on the high interest in the medical/nursing fields found in the research findings of this report, a partnership between Arkansas high schools and Arkansas medical institutions and universities is recommended. The research recommends examining the Cleveland Foundation’s model of this partnership found at the Cleveland School of Science and Medicine (<http://www.clevelandfoundation.org/VitalIssues/PublicEducationReform/PublicPolicy.html>). Based on a conversation between the researcher and Cleveland Foundation CEO Ronald Richard, the prevalence of young women entering the Cleveland School of Science and Medicine wishing to go into a lower-ranking position in the healthcare field (i.e. secretary at doctor’s office) and coming out of the school wishing to go into a higher-ranking position (i.e. neurosurgeon) is very high (conversation between researcher and Mr. Richard, February 2012).

Examine curriculum and learning at KIPP and ASMSA schools.

In the same vein of providing young women with a plethora of options aligning with their interests, the researcher recommends further study of the curriculum and format of both KIPP Delta Collegiate Charter High School and the Arkansas School for Math, Science and the Arts. As the research findings displayed in this report specify that neither ASMSA nor KIPP Delta’s participants intend to study nursing in college, participants from these schools do plan to pursue degrees in the sciences (ASMSA) and have a high percentage of students planning to pursue the pre-med track (KIPP Delta). Upon examining the practices of these schools, there may be transferrable curriculum/program elements (outside smaller classes and residences halls for students) that may be utilized in public high schools.

85%

of participants claimed that their parents/guardians have encouraged them to pursue at least one field of study – even if it was one of their interests

75%

of participants claimed that counselors, teachers and administrators encouraged them

Provide “Girls of Promise” type conferences for teachers, counselors, administrators and parents.

As evident in these research findings, family is a highly influential factor in a high school girl’s life (Figure 1e shows 33% of participants stating family as at least one factor that has influenced their future plans.). Further, 85% of participants claimed that their parents/guardians have encouraged them to pursue at least one field of study – even if it was one of their interests, while 75% of participants claimed that counselors, teachers and administrators encouraged them (see Figure 4a, Figure 4b). Because of the prevalences, and necessity, of external support in the lives of high school women, the researcher recommends workshops, conferences and career fairs be open to school personnel and parents of high school juniors and seniors. By providing opportunities for counselors and parents to learn about different careers in the ESTEM fields, this knowledge will be passed on to the young women they support.

Provide scholarships to college-bound graduates interested in pursuing a career in ESTEM.

The researcher recommends that the Women’s Foundation of Arkansas, and potentially in collaboration with other community foundations, develops a scholarship fund for graduating high school-age women interested in pursuing a degree in an ESTEM field. This initiative could provide essential financial support for graduating seniors, as well as provide an incentive to explore careers and degrees in the fields of economics, science, technology, engineering and math.

Tracking recommendations should be made to Arkansas Department of Higher Education.

Data provided by Arkansas Department of Higher Education states that over the past five years, men have more than doubled women in the amount of bachelors and post-graduate degrees received in the ESTEM fields (ADHE, Graduates from AY2077 (2006-2007) to AY2011 (2010-2011), pivot table). This does not, however, include information on nursing degrees being pursued and obtained. Research conducted by Executive Director, Lynnette Watts, and the researcher revealed that the State Board of Nursing does not track men or females entering the nursing degree programs; Arkansas Department of Higher Education does not track this data either (L. Watts, personal communication, March 19, 2012). Due to the high percentage of young women entering into this field, it is important to track the status of these students to determine whether degrees were obtained or the pursuit was abandoned.

Further, more in-depth research is needed

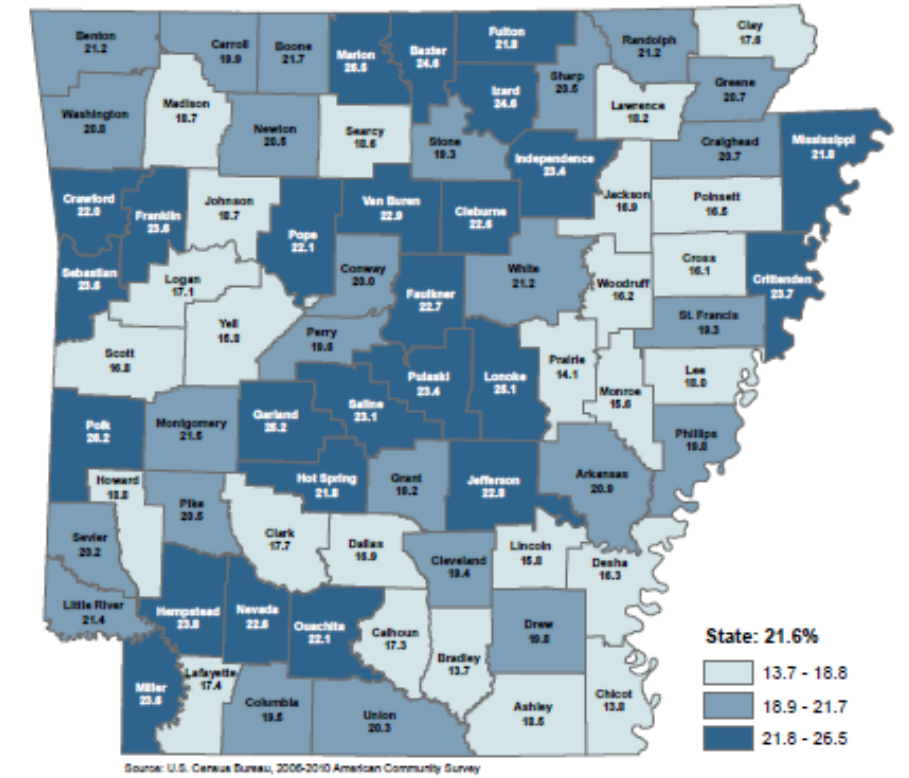
Though the data in this report shows a high percentage of young women planning to pursue a degree in the medical fields, a small percentage of participants displayed interest in the fields of math, science and technology. Research on the topic of why more women do not pursue degrees in these fields point to reasons such as the fact that “women experience a sense of marginalization based on the culture of STEM departments,” “they are outnumbered by their male peers in their science courses,” “they encounter few female role models and professors,” and some the idea that some “female and minority students’ cultural influences make the language of science or even excelling in science appear negative or inappropriate” (International Journal of Gender, Science and Technology, Vol.2, No. 3). Though this study touched on the reasons behind students’ fields of interest and intended majors, more research needs to be done to fully explore the reasons of why graduating students are interested in the fields they have specified. To delve more deeply into these questions, the researcher recommends that focus groups framed by questions based on the findings of this report are conducted. To get comprehensive and representative data, the researcher recommends that focus groups consist of young women in grades 9-12 from schools in different regions of the state.



- Alliance for Excellent Education. (January 2012) Arkansas High Schools. Washington, D.C. www.all4ed.org.
- Arkansas Advocates for Children and Families. (2011). The State of Working Arkansas. Little Rock, AR.
- Arkansas Department of Higher Education. (December 1, 2010). Comprehensive Arkansas Higher Education Annual Report: Remediation Rates. Little Rock, AR.
- Arkansas Department of Higher Education (December 1, 2009). Comprehensive Arkansas Higher Education Annual Report: College-Going Rate. Little Rock, AR.
- Baum, Sandy and Jennifer Ma. Education pays: The benefits for higher education for individuals and society. Higher Education, 2007.
- Cleveland Foundation. <http://www.clevelandfoundation.org/VitalIssues/PublicEducationReform/PublicPolicy.html>
- Georgetown University Center of Education and the Workforce. (June 2010). Help Wanted: Projections of Jobs and Education Requirements Through 2018 – Arkansas Analysis.
- Half in Ten: Restoring Shared Prosperity. (2009-2011). Arkansas. Retrieved from www.halfinten.org.
- Institute for Economic Advancement at the University of Arkansas Little Rock: GIS Laboratory (2006-2010). Three maps consisting of population 25 years and older with a high school diploma, some college but no degree, and bachelor's degree. (<http://argis.ualr.edu>)
- Institute for Women's Policy Research. (2009). Arkansas State Profile. Washington, D.C. Retrieved from www.iwpr.org.
- Institute for Women's Policy Research (December 2006). The Best and Worst State Economies for Women. Washington, D.C: Heidi Hartmann, Olga Sorokina and Erica Williams.
- Kinkaid, Diane (chairperson). The Status of Women in Arkansas 1973: Changing Rapidly – Improving Slowly. Report of the Governor's Commission on the Status of Women. Little Rock, Arkansas, 1973.
- Lumina Foundation for Education, Inc. (January 2011). A stronger nation through higher education – and Arkansas' role in that effort. www.luminafoundation.org.
- National Center for Higher Education Management Systems. (January 2011). Increasing the Competitiveness of the Arkansas Workforce for a Knowledge-Based Economy: How Do Current Higher Education Policies Help or Get in the Way? A Comprehensive Analysis of Higher Education Policy.
- The National Center for Educational Statistics at the Institute of Education Sciences. (2009). Public School Graduates and Drop-outs From the Common Core of Data: School Year 2008-2009, Table 8. Retrieved from <http://nces.ed.gov/pubs2011/graduates/tables.asp>.
- U.S. Census Bureau, 2005-2009 American Community Survey. Educational Attainment for the Population 25 Years and Over.
- Women's Foundation of Arkansas. www.womensfoundationarkansas.org.
- White House Council on Women and Girls. (March 2011). Women in America: Indicators of Social and Economic Well-Being.
- Washington, D.C.: Prepared by the U.S. Department of Commerce Economics and Statistics Administration and the Executive Office of the President Office of Management and Budget.

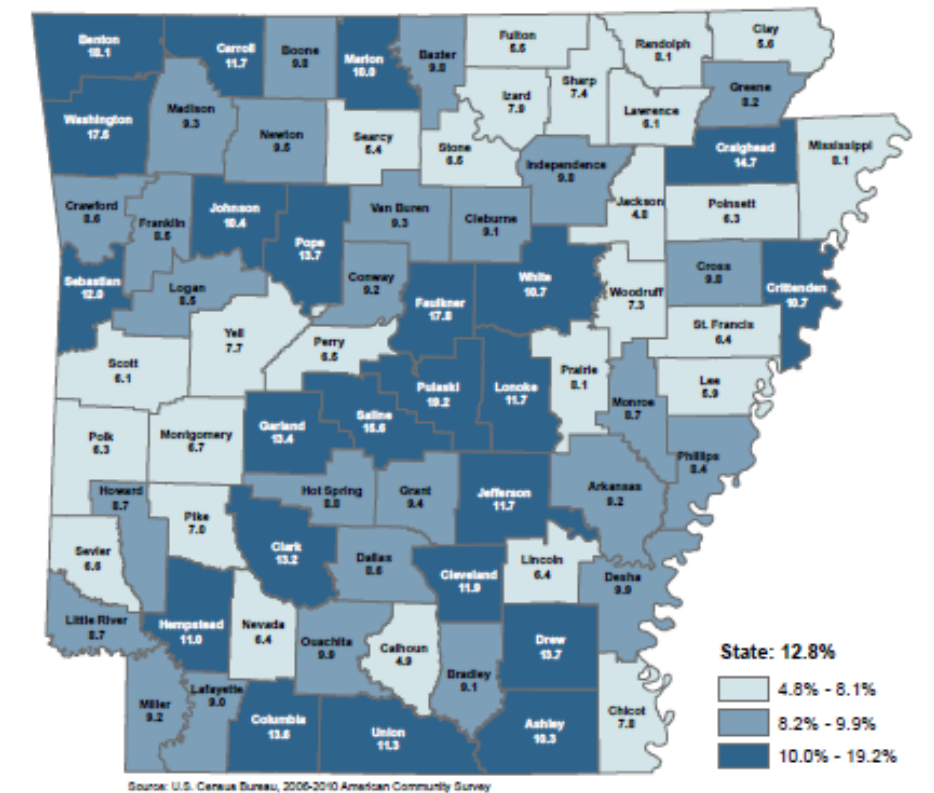
APPENDIX I: Student Surveys

Percent of population 25 years and older with some college, no degree, by County; Arkansas: 2006-2010



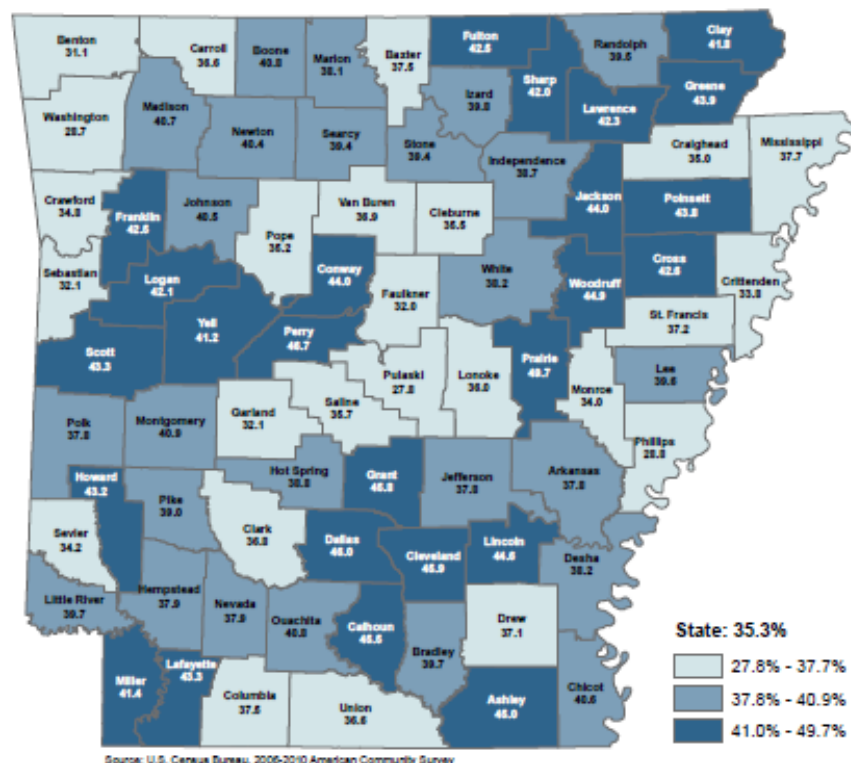
APPENDIX II: Student Surveys

Percent of population 25 years and older with a bachelor's degree, by County; Arkansas: 2006-2010



APPENDIX III: GIS Map

Percent of population 25 years and older with high school diploma or GED, by county; Arkansas: 2006-2010



University of Arkansas at Little Rock
GIS Applications Laboratory
Institute for Economic Advancement
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STUDENT SURVEY

This survey is intended for STUDENTS participating in this study. Please complete the following survey to the best of your ability.

1. What school do you attend? _____
2. What is your favorite subject in school? _____
3. Which of the following best describes your future plans immediately following graduation? (Please mark ONE circle.)
 - I plan to attend a two-year college after graduation.
 - I plan to attend a two-year college and then a four-year college.
 - I plan to attend a four-year college after graduation.
 - I plan to attend a trade school after graduation.
 - I plan to join the workforce immediately after graduation instead of attending college.
 - I plan to join the military immediately after graduation instead of attending college.
 - I plan to join the military immediately after graduation and then attend college.
 - Other _____
4. What factors influenced your above decision? _____
5. What career path would you like to pursue? Please explain why. _____
6. Which race do you identify yourself to be? (Please mark ONE circle.)
 - Black/African-American
 - Caucasian
 - Hispanic
 - Asian-American
 - Other _____
 - Prefer not to answer

Please only answer the following questions if you have plans to attend college or university, as they pertain to college location and fields of study at college.

7. If you plan on attending college/university, which best describes WHERE you will be going? (Please only mark ONE circle.)
 - I plan to attend a college/university in Arkansas.
 - I plan to attend a college/university NOT in Arkansas.
8. What do you plan to study in college? Why? _____
9. What subjects/fields of study have administrators, counselors and/or teachers at your high school encouraged you to study in college? _____
10. What subjects/fields of study have your parent(s)/guardian(s) encouraged you to study in college? _____

COUNSELOR SURVEY

To inform this study, the Women's Foundation of Arkansas would like to collect the ideas and opinions of persons involved in the counseling field. Please tell us your thoughts on the following questions:

1. Based on your experience, do the majority of young women graduating from your school plan to attend an institution of higher education (two or four-year college/university)?
 ___ yes ___ no ___ don't know ___ unsure
2. In your opinion, what are some of the main reasons that these young women decide to pursue a college (two year or four year) degree after high school? _____
3. In your opinion, what are some of the main reasons that these young women decide NOT to pursue a college (two year or four year) degree after high school? _____
4. Based on your experience, what are the top fields of study that high school-aged women plan on pursuing in college? _____
5. Based on your experience, what are some of the main reasons that young women drop out of high school? _____

Thank you for taking the time to complete this survey. We value your comments! For more information on this project, please contact the Women's Foundation of Arkansas at www.womensfoundation.org or (501) 244-9740.





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