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# Rural Brain Drain: A Quantitative Study of the Potential Impact on the Youth in Rural Aroostook County

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Youth in Rural Aroostook County

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### Abstract

The present research explores the phenomenon commonly referred to as rural brain drain and whether it occurs in rural, Aroostook County Maine. The aim of the study also included an examination of how family, friends, community, school counselors, teachers, social media and early college courses are impacting student decisions post-high school graduation. Potential impacting factors explored included school counselors, teachers, social media, family, friends and community, as well as early college programming available at the high schools. The populations surveyed included school counselors, current high school seniors, and those teachers with high engagement levels with high school seniors. Results regarding college-going rates were not clearly indicative that rural brain drain does, in fact, occur in Aroostook County. Family, friends and community were unmistakably the highest impact factor as indicated by all 3 groups surveyed. The findings are relevant in both developing strategies to increase college enrollments and to retain more high school graduates post-high school in Aroostook County, Maine.

*Keywords:* rural, rural brain drain, rural college aspirations

## Introduction

A cursory review of bachelor's degree attainment in Northern Maine as it compares to the rest of the state and national averages, leads one to believe that college aspirations are low in Aroostook County. According to the U.S. Census Bureau's 2014 report, national and state averages of high school graduates above the age of 25 with a bachelor's degree were 28.8% and 27.9% respectively. Aroostook County's rate, using those same parameters, was only 16.7% (U.S. Census Bureau, 2014). Students leaving or "out migrating" their rural hometown after graduation is often referred to as "rural brain drain." According to Carr & Kefalas (2009), rural brain drain is the disproportionate outmigration of youth from rural areas in search of better opportunities. The purpose of this quantitative study is to understand what factors contribute to a student's decision to remain or leave their rural area after graduating from high school as well as study their aspirations to pursue higher education. This study will focus on three populations residing in Aroostook County, Maine: (a) teachers; (b) school counselors; and (c) high school seniors. Teachers and school counselors were chosen due to the high impact advising and mentoring that each role can potentially have on a high school student, not only in their senior year but throughout their entire high school career. High school seniors were chosen because of the nature of where they are in their lives, at the cusp of making a decision of what to do after they graduate. This study highlights the following potential contributing factors:

- school counselors
- teachers
- social media

- family, friends and community
- early college programming available at the high school

Several previous studies on college aspirations and rural brain drain have cited these factors as major contributors to rural brain drain. For example, research has found a direct correlation between college readiness programming available at high schools and educational aspirations beyond high school (Meece, Hutchins, Byun, Farmer, Irvin & Weiss, 2013). These college readiness programs are further supported by the teachers who interact with students on a day to day basis (Alleman & Holly, 2013). In addition, the 2014 State of College Admission report found that the use of social media tools are being integrated college admissions marketing plans at an astounding rate in an effort to meet the increase in student activity with tools such as websites, blogs, and social media platforms (National Association for College Admission Counseling, 2014).

The primary research questions that were the focus of this study are outlined below:

1. To what extent do the contributing factors outlined above impact a student's decision to pursue higher education after graduating from an Aroostook County high school?
2. To what extent do the contributing factors outlined above impact a student's decision to stay or leave Aroostook County after graduation from high school?
3. Is rural brain drain a phenomenon that occurs in rural Aroostook County?

These questions are essential to answer in considering the future of the economy as well as the future of the local universities that offer educational programming within the county.

As with most studies, there are several sub questions to consider in order to best outline the nature of the main questions. These include the following:

1. To what measure do school counselors, teachers and students differ in their perspectives on what impact school counselors, teachers, social media, family, friends and community, and early college programming contribute to college aspirations in Aroostook County?
2. To what measure do school counselors, teachers and students differ in their perspectives on what impact school counselors, teachers, social media, family, friends and community, and early college programming contribute to a student's decision to stay or leave Aroostook County?
3. Are there noticeable differences in college aspiration or rural brain drain amongst the high schools within Aroostook County?

The answers to these sub questions were essential in an effort to gain a broad perspective on the occurrence of rural brain drain in Aroostook County. In addition, they helped to better ascertain what factors contribute to college aspirations for students attending high schools in Aroostook County.

### **Hypotheses**

The framework of this study was based on two primary hypothesis statements.

The statements are as follows:

- 1) There exists a particular culture within Aroostook County high schools that contributes to the outmigration of high school seniors, which leads to rural brain drain being a phenomenon that does exist in Aroostook County.
- 2) School counselors, teachers, social media, family, friends and community as well as early college programming available in high school are factors that contribute to rural brain drain occurring in Aroostook County.

### **Delimitations**

This study focused on collecting information from high school seniors, school counselors, and teachers in public high schools in Aroostook County. The responses were captured as high school seniors were making their college decisions in the fall prior to their potential enrollment. However, the study did not capture how thoughts may have changed over a period of time. Additionally, the study focused only on exploring high school counselors, teachers, social media, family, friends and community, as well as early college programming available at the high schools as potential influencing factors. Additional factors such as degree program availability, specific job opportunities and other social implications were not included within this study.

### **Definition of terms**

The terms rural brain drain and youth outmigration will be used frequently throughout this study. To ensure that these are well understood, definitions are provided below.

*Rural brain drain:* According to Carr & Kefalas (2009), rural brain drain is defined as:

....losing the most talented young people at precisely the same time that changes in farming and industry have transformed the landscape for those



who stay. This so-called rural "brain drain" isn't a new phenomenon, but by the 21st century the shortage of young people has reached a tipping point, and its consequences are more severe now than ever before. (p. 1)

*Youth outmigration:* Research by Carr & Kefalas (2009) discuss the concept of youth outmigration extensively. The term refers to youth leaving their rural, hometowns in search of what they perceive as better economic, educational and social opportunities.

### **Assumptions**

This study does include assumptions. These assumptions include the fact that school counselors, teachers, social media, family, friends and community as well as early college programming are indeed contributing factors that can be associated with both college aspirations as well as rural brain drain in Aroostook County. There is also an underlying assumption that rural brain drain does exist in Aroostook County.

Furthermore, an assumption is being made that the contributing factors listed above are prevalent to all of the groups being studied. Lastly, there is also an assumption that the participants will answer the survey truthfully and accurately based on their own true experiences.

### **Importance of the Study**

This study is distinctive in that the focus is on Aroostook County, Maine. Several other studies have been completed related to rural brain drain and college aspirations in rural areas across the United States. However, none have focused specifically on the potential impact that school counselors, teachers and student perceptions have on rural brain drain and college aspirations in Aroostook County.

The data collected in this study are of significance to a number of groups. Admissions professionals working to improve college going rates in Aroostook County will be able to glean important information on how best to encourage students in the county to consider staying in the county to pursue their degree in higher education. Additionally, by understanding what influences a student's decision, school counseling professionals will gain a broader perspective on why students are choosing to remain or stay in Aroostook County after graduating from high school. With this perspective, focused programming could be offered to improve college going rates in this most northern, rural county in Maine. Additionally, programming within the high school could be developed with more focused relevance. Furthermore, the businesses that support the local economy could benefit as well by understanding what factors are contributing to high school students migrating out to look for work.

Most importantly, this study will help to inform and educate stronger, more relevant decisions as it relates to the educational aspirations for Maine's rural youth. The results of this study have the potential to be much more far reaching than simply within the borders of Aroostook County. Much of the state of Maine can be defined as rural thus the information gathered from this study could have far reaching implications beyond just Northern Maine.

### **Review of the Literature**

Rural brain drain and its' potentially debilitating effects on rural communities is gaining interest in local, regional and state-level organizations, communities and higher education institutions (Theodori & Theodori, 2014). The effects of rural brain drain often have a negative impact on those communities that students leave behind, while having a

seemingly positive impact on those who leave due to the plethora of opportunities they can choose from in a larger community (McLaughlin, Shoff, & Demi, 2014). When seen as positive from the student's perspective, it is difficult to convince many youth to stay in areas where the reality of the future is so uncertain. In fact, a study of the expectations of teachers and school counselors to that of students from rural high schools covering 21 states, found that both groups seemed resigned to the fact that opportunity only existed outside of their own rural community (Ley, Nelson & Beltyukova, 1996).

In order to gain a broad understanding of how this might affect high school students in Aroostook County, it is important to understand the population of Maine and, more specifically, Aroostook County. Additionally, it is critical to identify the economic impacts that rural brain drain might have on rural communities. For example, in reviewing a historical perspective of the economy in Aroostook County and comparing it to the outmigration of its youth, one can make determinations as to how the economy has impacted the youth in Aroostook County. In summary, a student's decision of what to do after high school is influenced by a variety of factors and ultimately these factors and decisions help to shape the current and future economy of rural, Northern Maine.

The literature review that follows will provide a thorough examination of pertinent research as it relates to the research questions outlined above. The review begins with an overall summary of Maine's educational and demographic landscape, specifically as it relates to college aspirations and the rurality of the state. Particular attention is dedicated to comparing those overall rates with the rates in Aroostook County. To provide a clear framework for the study, definitions of rural brain drain and rural outmigration follow. Lastly, an overview of current research in rural brain drain

and college aspirations as it relates to (a) school counselors; (b) teachers; (c) family, friends, and community; (d) social media; (e) early college programming are provided in an effort to provide connections to the factors that were chosen as integral to this study.

### **Maine's Landscape**

College going rates in Maine have remained steady over the last 7 years. According to the Maine Department of Education's National Student Clearinghouse report, the average college going rate in the fall immediately following high school is reported to be 61%. Averages were as low as 59% in 2007 to as high as 62% in 2014. Furthermore, for this same timeframe, the average percentage of students attending college out of state has averaged 18% while the average percentage of students attending college in state has averaged 43% (Maine Department of Education, 2015).

Bachelor's degree attainment in Maine aligns with national averages. However, bachelor's degree attainment in Aroostook County is lower than both the national and state averages. According to the U.S. Census Bureau, the state of Maine's estimated population in 2014 was 1,330,089. The percentage of residents under the age of 18 was estimated at 19.7% of the total population. Furthermore, the percentage of 15 to 19 year olds, which represents the typical college bound age, was 7%. It is estimated that 91.1% of Maine's residents who are 25 or older are high school graduates. However, only 27.9% hold a bachelor's degree or higher. The most northern county, Aroostook, has a total estimated population of 69,447. The percentage of residents under the age of 18 was estimated at 19.1% of the total population. Furthermore, the percentage of 15 to 19 year olds, which represents the typical college bound age was 6.7%. It is estimated that 85.1% of Aroostook County residents who are 25 or older are high school graduates, and

in contrast, only 16.7% hold a bachelor's degree or higher. To further add to the context, it is estimated that 86% of United States residents who are 25 or older are high school graduates and approximately 28.8% hold a bachelor's degree or higher (U.S. Census Bureau, 2014). Why the stark contrast in the percentages between national and state averages and Aroostook County? While research can be found nationally in relation to the factors that might contribute to college aspirations, very little research can be found that addresses the state of Maine, in particular that of Aroostook County.

### **Rural Brain Drain & Youth Outmigration**

With a total population of 69,447, Aroostook County's towns can be defined as rural. According to the U.S. Department of Agriculture's report (2014), the definition of rural is as follows:

The terms 'rural' and 'rural area' mean any area other than (i) a city or town that has a population of greater than 50,000 inhabitants and (ii) an urbanized area contiguous and adjacent to a city or town described in clause (i). (p. 4)

Using population and housing unit density, the population per square mile in the state of Maine is estimated at 43.1. In comparison, Aroostook County's population per square mile is only 10.8 (U.S. Census Bureau, 2014). It is reasonable to conclude that Aroostook County is an extremely rural area in the state of Maine. Rural brain drain and youth outmigration are two variations of essentially the same phenomenon where high school seniors leave their rural hometowns after graduation. They leave for what is perceived as better opportunities in the workforce as well as more enriching choices to complete their post-secondary education. This outmigration will often impact the

brightest and best youth in a community (Carr & Kefalas, 2009; Gibson & McKenzie, 2011; McGranahan, Cromartie & Wojan, 2010; Petrin, Schafft & Meece, 2014; Sherman & Sage, 2011). Rural youth outmigration can impact the community in several ways, one being the impact on the economy.

Rural economies play a significant role in the decision for its youth to leave their hometown after graduating from high school (Cox, Tucker, Sharp, Gundy & Rebellon, 2014; Meece, et al., 2014). Rural communities across the United States have seen a substantial decline in industries such as agriculture, mining, fishing and logging. These positions have historically been filled by rural youth who needed little to no postsecondary preparation. The decline in these industries has played a significant role in the increase of youth outmigration and has had a devastating and negative impact on rural economies (Meece, Askew, Agger, Hutchins, & Byun, 2014; McGrath, et al., 2001). In particular, the economic impacts can have the potential to be devastating on those communities that have historically depended on agriculture to sustain the local economy (McGrath, Swisher, Elder Jr., & Conger, 2001). For example, farms are operated by only 2% of the American population today, and many are earning less than \$20,000 per year (Carr, et al., 2009). Furthermore, the current job industry generally requires more education, which can be linked to why rural youth are leaving their communities post-graduation at a much higher rate than ever before (Meece, et al., 2014). The financial constraints in a rural community can leave its youth feeling limited in choice and reduce their aspirations for attending college (Cox, et al., 2014). Declines in the lumber and potato industries have been harsh on the economy in Aroostook County and the towns within the county have not been spared of what has occurred in small towns across the

United States. For example, the number of production workers declined by 44% between the years 1990 and 2009 and the decline is directly related to a significant job loss in the manufacturing sector which includes the lumber and potato industries (Maine Department of Labor, 2011). And, while the economy is a key driver of why youth from a rural community might leave, there are other factors that also contribute to that outmigration.

**Family, friends, and community.** Family, friends, and the community play a significant role in shaping the decisions regarding college aspiration and outmigration of youth living in rural areas (Byun, Meece, Irvin & Hutchins, 2012; Corbett, 2013; Meece, Hutchins, Byun, Farmer, Irvin & Weiss, 2013; Theodori & Theodori, 2014). Researchers highlighted connections between family income and parent expectation to college aspirations in rural youth and deduced that as family income decreases so does the aspiration to attend college (Meece, et al., 2013). This same study also determined that the higher the expectation of a parent, the higher the level of aspiration the student has to pursue postsecondary education after high school (Meece, et al., 2013). According to a qualitative study that focused on high school students in a variety of small towns in Texas, the main driver in deciding to stay or leave was their family, friends and the sense of community they felt towards their hometown (Theodori & Theodori, 2014). The community of Golden Valley, California, faced an economic downturn that drastically changed their economy due to a decline in their timber industry. The study indicated that the community itself was playing a role in encouraging their youth to leave the impoverished area for better opportunities (Sherman & Sage, 2011). Family, friends and the community play a role by way of the message they send to their aspiring youth and, at times, this message can be that leaving is their best and only option for a “better life”.

**School counselors & teachers.** School counselors and teachers serve in a unique and important capacity to positively or negatively impact decisions regarding the pursuit of higher education in rural youth (Alleman & Holly, 2013; Irvin, Meece, Byun, Farmer & Hutchins, 2011; Meece, et al., 2013). Teachers can have a positive impact by ensuring that the academic strength in their curriculum prepares students for the rigors and expectations that is anticipated with college level work. This type of preparation is essential to one's belief in the importance of pursuing a college education. In fact, the strength of the curricular track is often positively related to college aspirations (Irvin, et al., 2011). Furthermore, according to the 2014 State of College Admission report, Admissions Offices identified grades and the high school curriculum as the top factors in the admission decision (National Association for College Admission Counseling, 2014).

Programming organized by the school counseling office can also have the potential to support college aspirations. For example, a study on in-school efforts such as one on one college counseling, financial aid informational nights and busing students to college fairs proved to raise the level of college aspirations for the students involved in that programming (Alleman & Holly, 2013). However, time constraints and school policy can sometimes deter these types of successful efforts. According to the 2014 State of College Admission report, school counselors engage in a variety of activities related to college counseling including individual meetings, hosting college representatives, meetings with parents as well as organizing tours of college campuses. However, on average, only 24% of their time is spent on these college counseling related activities (National Association for College Admission Counseling, 2014). Considering so little time is spent on college aspiration programming, how effective can it really be?



**Social media.** Social media is integral in the lives of many youth today. High school students reported using social networking sites to research colleges at a rate of 44%, more than double what it was just four years ago (Sandlin, & Peña, 2014). And many more colleges and universities have integrated these same social media tools in their recruitment strategies. According to the 2014 State of College Admission report, 96% of the institutions that responded reported that social media links for their institutions were live and active on their website. This is up from 39% in 2008 (National Association for College Admission Counseling, 2014). A study on the role of social media indicated that social media outlets have broadened access to information about post-secondary options for youth in rural areas thus increasing the level of college aspirations (Wohn, Ellison, Khan, Fewins-Bliss & Gray, 2013). Websites are more interactive, college admission offices are reachable by a variety of mediums and technology has essentially brought the college experience to the student.

**Early college programming.** Early college programming, where high school students take college level courses while still completing their high school credits, is becoming an effective and common avenue for rural high schools with limited resources to broaden their course offerings to students (Dyce, Albold & Long, 2013). In a recent report, it was estimated that 82% of US public high schools had students who were enrolled in a dual-credit course which adds up to about 1.4 million students, a significant increase over the 800,000 students that were enrolled in 2002-03 (Adams, 2014). This increase in access to college level courses has been shown to increase the level of aspiration to attend college (Dyce, et al., 2013). As exposure increases to what college level courses are like, students can gain perspective as well as confidence in realizing that

college is an obtainable goal. Early college programming, as well as the other factors outlined above, are crucial in understanding what drives the decisions of rural youth.

In closing, it is increasingly important to build awareness around the potential negative impacts that rural brain drain can have on rural communities across the nation. This study focuses on one of those rural communities, Aroostook County, Maine an area in which very little previous research has been done. It is important to ascertain what factors are contributing to the decisions students are making in Aroostook County in an effort to not only ensure the long term success of the economy but to also ensure the success of the higher education institutions in that county.

### **Method**

A quantitative approach that included a paper and pencil survey design was utilized for this study. A quantitative approach allowed for wide breadth of information to be gathered in relation to the key factors as outlined above. According to Creswell (2013), “A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. From the sample results, a researcher generalizes or draws inferences to the population” (p. 154). The survey method identified the key factors and asked questions regarding the impact those factors might have had. Utilizing mainly closed-ended questions provided useful data to gather trends and direction in relation to the hypothesis. Using this approach allowed for the development of the survey to be driven by the test variables as outlined above. It also allowed for the some free-form questions and data collection as a way for respondents to include information that was deemed important to them but not included in the survey.

## **Participants**

The 3 sub-groups that were asked to participate included high school senior, school counselors and teachers from high schools in Aroostook County. Data for all 3 groups was gathered from 14 of the 16 high schools in Aroostook County. The Maine School of Math & Science chose not to participate. The other non-participating high school, Presque Isle High School, did submit survey data. However, the surveys were collected without consent and assent forms, therefore the results could not be included in the final research. Consent forms were required to be signed by all participating school counselors, teachers and students. In addition, the only identifying variable that was asked of all three groups was the name of the high school the participant either attended or worked for. This identifier was important to note in an effort to identify potential trends between high schools. Lastly, the consent forms were removed from the survey before the data was recorded to ensure that names were not connected to any data results.

The students included were current high school seniors, as of September 2015, attending high schools in Aroostook County. The size of each senior class varied by school with as little as 11 in one school to as many as 108 in another school. The total population spread across all 14 high schools that participated in the research project equaled 543 seniors. A total of 336 surveys were collected from this group, which is equivalent to a 62% response rate. Non-responders included those students who were absent the day the survey was administered or students who chose not to participate in the research.

The school counselor surveys were collected from those same high schools where student data was collected. Many high schools in Aroostook County employ only 1

school counselor at the high school level with only a small handful having additional staff beyond the 1. The total number of surveys collected from this group was 16, with at least one survey being collected from each school. Non-responders included those high schools who employ more than one school counselor and the entire staff chose not to be a part of the research study.

The teacher surveys were also collected from those same high schools where student data was collected. The group consisted of any teacher who was currently teaching classes to high school seniors. The pool of teachers at each of the high school varied greatly due to the size of the school. A total of 49 surveys were collected from teachers, representing 11 of the 14 high schools. Since the exact total population is unknown, it is hard to determine the response rate. However, the goal was to collect data from at least 50 teachers across a wide representation of the high schools and this goal was accomplished. In the table below, participation details by high school are provided.

Table 1

*Participant Numbers by High School*

Name of High School	Students ( <i>n</i> )	Percent of Class	Teachers ( <i>n</i> )	School Counselors ( <i>n</i> )
Ashland	20.0	91.0	4.0	1.0
Caribou	56.0	52.0	8.0	3.0
Central Aroostook	28.0	76.0	0.0	1.0
Easton	10.0	91.0	4.0	1.0
Fort Fairfield	29.0	85.0	4.0	1.0
Fort Kent Community	45.0	61.0	5.0	1.0
Hogdgon	20.0	57.0	8.0	1.0
Houlton	21.0	28.0	0.0	1.0
Limestone	8.0	40.0	2.0	1.0
Madawaska	30.0	86.0	0.0	1.0
Southern Aroostook	11.0	65.0	6.0	1.0
Van Buren	5.0	38.0	1.0	1.0
Washburn	27.0	82.0	1.0	1.0
Wisdom	26.0	87.0	6.0	1.0
Totals	336.0	62.0	49.0	16.0

## Measures

To determine whether rural brain drain does, in fact, occur students were asked what their plans were directly following graduation from high school. Students were asked to pick from five choices that included attending college in Aroostook County, attending college outside of Aroostook County, finding a job in Aroostook County, finding a job outside of Aroostook County or joining the military. An additional space was included so that students could write in a choice that was not represented within the five categories. Question 2 asked students to rank the following factors (a) school counselors; (b) teachers; (c) social media; (d) family; friends and community; (e) early college programming on a scale of 1 to 5. A response of 1 indicated the factor that had the most impact on their decision from Question 1 of the survey and a response of 5 indicated the factor that had the least impact. Participants were asked to rank each factor individually. Question 3 was included, in part, to confirm the student's answers to Question 2, which was a series of Likert based questions using a five-point scale of "Major affect" to "No affect" on the contributing factors as indicated above. Additional room was included for participants to add in a factor and scale it, if it was not already included. Question 4 was a two part question. The first asked the student if they were currently enrolled, or had previously enrolled, in any early college courses. The second asked the student to indicate on a Likert, five-point scale of "Major affect" to "No affect" on what impact that involvement had on their answer to Question 1. Questions 2, 3 and 4 of the survey were developed to determine what factors are impacting student decisions after high school as well as to confirm that the factors included in the research were, in fact, the major contributing factors. Lastly, the student was asked to indicate what high school they were currently attending. This was asked to determine if trends could be seen

within and between the various high schools in Aroostook County. With a 62% response rate that is representative of nearly every high school in Aroostook County, the results can be deemed as valid and representative of the group surveyed.

The school counselor survey began by asking the respondent to indicate the percentage of their senior class that they believed were attending college in Aroostook County, attending college outside of Aroostook County, finding a job in Aroostook County, finding a job outside of Aroostook County or joining the military. An additional space was included so that they could write in a choice that may have not been represented within the five categories. The total percentage including all of the factors needed to equal 100%. This question was developed to gain insight into the perception of the school counseling community as it relates to rural brain drain. Question 2 was a series of Likert based questions using a five-point scale of “Major affect” to “No affect” on the contributing factors as indicated in the student survey. Additional room was included for participants to add in a factor and scale it, if it was not already included. Question 3 was included, in part, to confirm the answers to Question 2. Respondents were asked to rate those same contributing factors from Question 2 on a scale of 1 to 5. A response of 1 indicated the factor that they believed to have the most impact on their student’s decisions post-high school and a response of 5 indicated the factor that they believed to have the least impact on their student’s decisions post-high school. Participants were asked to rank each factor individually. These two questions were developed to gain insight into what the school counseling community feels are important contributing factors on student’s decision post-high school. In addition, the results supported to confirm that the factors included in the research were, in fact, the major contributing factors as viewed by the school counseling participants. Question 4 asked

the school counselors to indicate how many seniors were participating in early college programming. This question was utilized to determine, by school, the overall impact this could potentially have on a student's choices. For example, if little to no students were enrolled in early college courses, then the impact could not be significant. Question 5 asked what percentage of time the participant spent on college aspirations programming such as one-to-one college counseling or assistance with college applications. Similar to the previous question, this was utilized to determine, by school, the overall impact this could potentially have on a student's choices. If little time is dedicated to college aspirations, then one can conclude that it cannot have a significant impact. The last question asked the school counselor to indicate the high school they were working at. This allowed for a direct comparison to be made between the staff and the student perceptions at each of the high schools. With results successfully collected from each participating high school, it can be deemed that the results are representative of the group surveyed.

The outline of the final survey which was distributed to the high school senior teachers was an exact match to the school counselor survey and was developed with the same data points in mind, with the exception of Questions 4 and 5. Question 4 asked the participant to indicate whether they taught any early college courses. Question 5 asked the participant to indicate what percentage they believed their high school staff dedicated to college aspirations programming. This was utilized to determine, by school, the overall impact this could potentially have on a student's choices. If little time is dedicated to college aspirations, then one can conclude that it cannot have a significant impact. The last question asked the teachers to indicate the high school they were working at. This allowed for a direct comparison to be made between the staff and the

student perceptions at each of the high schools. With results successfully collected from 11 of the participating high schools, it can be deemed that the results are representative of the group surveyed.

### **Procedure**

The steps to have the research approved by the Institutional Research Board was compiled and the project was officially approved on December 1, 2015. The official approval letter is available upon request. Final research results will be shared with the school counseling offices as well as the teachers who participated in the hopes that they find useful information that can be used in their future planning.

School counselors were contacted in December by email (see Appendix A) to determine whether their schools would be interested in participating in the study. Embedded as attachments to this initial email were the three surveys (Appendix B, C, & D) that were developed to collect data for the study. Data collection for all three groups was cross-sectional and the populations were not stratified. Schools were given a timeframe of two weeks to complete the survey. After two weeks, a reminder went out to those who had not responded yet. A third, and final request was made to the non-responding high schools in mid-January with a deadline of replying no later than January 31, 2016. The month of February was dedicated to collecting and entering data results into an excel file. All survey results were collected and entered by the end of February.

Included in the consent and assent forms for all three surveys, was information about why the study was being done, who was being asked to participate in the survey, potential benefits and perceived risks as well as privacy as well as privacy protection and confidentiality details. Survey results did not include names or other personal identifiers



other than the name of the high school. Weaknesses of the survey consisted of students, counselors or teachers who did not care enough to provide truthful answers.

### **Analysis**

The descriptive statistics derived from this study were compiled using SPSS software, a statistical analysis and data mining software as well as excel. Results were tabulated first by each individual group (students, teachers, and school counselors) to establish any trends within each group. For the student survey, this was accomplished by establishing a summary of the data in the first question of the survey which related to the student's plans after graduating high school. This summary allowed for a frequency count of each factor to be calculated both across the entire survey respondent pool as well by individual high school. The second question regarding the rank order of each factor was tabulated and a mean was derived for each factor to determine which factor had the most impact and which had the least impact. The second question relating to the effect that each factor had on the student's plans after high school was tabulated using a frequency count to determine which factors had the most effect and which factors had the least effect. The third question relating to early college programming was tabulated using a frequency count similar to the process as outlined for the second question. The last question was used to gather descriptive statistics within that high school and allowed for comparisons to be made between each of the high schools surveyed. The teacher and school counselor surveys were calculated in the same way as described above. Lastly, results were examined across all three areas to determine any commonalities or striking differences.

## **Results**

Three primary research questions directed this research: (a) To what extent do particular factors impact a student's decision to pursue higher education after graduating from an Aroostook County high school? (b) To what extent to particular factors impact a student's decision to stay or leave Aroostook County after graduating from high school? and (c) Is rural brain drain a phenomenon that occurs in rural Aroostook County?

Exploring even deeper into the research, the following sub-questions were also examined:

(a) To what measure do school counselors, teachers and students differ in their perspectives on what impact school counselors, teachers, social media, family, friends and community, and early college programming contribute to college aspirations in Aroostook County? (b) To what measure do school counselors, teachers and students differ in their perspectives on what impact school counselors, teachers, social media, family, friends and community, and early college programming contribute to a student's decision to stay or leave Aroostook County? and (c) Are there noticeable differences in college aspiration or rural brain drain amongst the high schools within Aroostook County? The following research results have been broken down into two groups. First, an examination of the student data in relation to the research questions. This is followed by an analysis of the school counselor and teacher data. Lastly, comparisons amongst the data collected by all three groups will round out the results.

### **Students**

In order to frame the research, the first data point that was essential to explore was the results from the first question from the student surveys. As seen in Table 2 below, most students, or 79%, indicated that their intention was to pursue post-secondary education upon graduating from high school.

Table 2

*Student Plans after High School*

Plans After High School	Frequency	Percent
Attend college in Aroostook County	131	40.5
Attend college outside of Aroostook County	136	39
Stay in Aroostook County and find a job	24	7.1
Leave Aroostook County and find a job	5	1.5
Stay in County for college and a job	5	1.5
Leave County for college and a job	2	0.6
Military	22	6.5
Other	6	1.8
Blank/Incorrectly Answered	5	1.5
Total	336	100

The spread of students planning to leave Aroostook County for college versus those who plan to stay in Aroostook County was a difference of only 1.5% with the slight advantage going to those intending to leave Aroostook County. The other category included 3 students who indicated that their plans were to attend beauty school, 1 student who has been sponsored to attend the police academy, 1 student who was unsure and 1 student who indicated that they were planning to work in Aroostook County and enroll in online courses at an institution outside of the county. A handful of students, 12 to be exact, either chose not to answer this particular question or indicated more than one choice.

A closer look at the data does reveal differences in these answers between the various high schools in Aroostook County, in particular when looking at a student's choice between staying or leaving Aroostook County to pursue higher education. Table 3 outlines student plans and breaks it down by individual high school attended.

Table 3

*Student Plans by High School*

High School	College in County	College outside of County	Work in County	Work outside of County	Military	Blank/ No answer	Other
Ashland	7	6	3	0	3	0	1
Caribou Cen.	23	19	3	1	7	3	0
Aroostook	17	9	2	0	0	0	0
Easton	3	1	1	2	1	1	1
Fort Fairfield	7	15	2	0	2	1	2
Fort Kent	17	18	4	0	2	4	0
Hogdgon	7	9	1	0	1	1	1
Houlton	7	13	0	0	1	0	0
Limestone	6	1	0	0	0	1	0
Madawaska So.	9	16	2	0	2	0	1
Aroostook	0	8	1	2	0	0	0
Van Buren	1	4	0	0	0	0	0
Washburn	17	7	2	0	0	1	0
Wisdom	10	10	3	0	3	0	0
Total	131	136	24	5	22	12	6

For example, Southern Aroostook High School students report that 0 will stay in Aroostook County and 8 (72.7%) will leave. Alternatively, Washburn High School students reported that 17 (62.9%) have plans to stay and 7 (25.9%) have plans to leave. Other schools such as Ashland High School and Wisdom High School have more equal numbers of students staying and leaving Aroostook County for college. There seems to be little in the way of a pattern or any correlations that can be found amongst the high schools and the college choices that a student are making.

To examine what extent the contributing factors have on a student's decision to pursue higher education after graduation, data was pulled on only those students who indicated their plans were to attend college either within or outside of Aroostook County.

Table 4 below outlines the student responses to what factors they felt had an impact on their decision.

Table 4

*Factors Impacting those Students Pursuing Higher Education*

Factors	Major Affect		Moderate Affect		Neutral		Minor Affect		No Affect	
	Percent	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>
School/guidance counselor	13.5	36	34.8	93	26.2	70	10.9	29	6.7	18
Family, friends & community	63	155	22.4	55	11.4	28	2.8	7	0.4	1
Teachers	8.2	22	26.2	70	39.3	105	10.9	29	7.1	19
Early College Programming	15.6	27	40.5	70	27.2	47	8.7	15	6.4	11
Social Media	2.2	6	13.1	35	24.7	66	16.9	45	34.5	92
Other	5.9	16	0.4	1	1.9	5	0.4	1	2.2	6

By far, the students indicated that family, friends & community had the most impact on their decision to pursue post-secondary education. The percentage of students responding to this factor with a rating of “Major Affect” was 63%. The second highest factor was their school/guidance counselor with a rating of “Moderate Affect” by 34.8% of the students. It is also important to note that for those students participating in early college programming, this factor actually had the second highest impact with a rating of “Moderate Affect” given by 40.5% of the students. Furthermore, it is relevant to note that social media was rated as the least impactful factor by quite a margin. It was rated as having “No Affect” by 34.5% of the students and “Major Affect” by only 2.2% of the students.

To determine if the factors are viewed differently by a student who intends to stay or leave Aroostook County, the same data was collected and divided into two groups. Those who answered that they were planning to attend college or work in Aroostook County were placed into one grouping and those students who answered they were planning to leave Aroostook County to attend college, work outside of the county or join the military were placed into another grouping. The results are below in Tables 5 and 6.

Table 5

*Factors Impacting Students Staying*

Factors	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
School/guidance counselor	9.3	36.4	32.5	11.3	10.6
Family, friends & community	60.0	26.7	10.7	2	0.7
Teachers	6.9	23.8	38.1	13.1	11.3
Early College Programming	18.8	41.3	23.8	7.5	6.3
Social Media	1.9	9.4	23.8	19.4	38.8
Other	5.6	0.6	1.9	0	2.5

Table 6

*Factors Impacting Students Leaving*

Factors	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
School/guidance counselor	15.8	30.9	26.1	10.9	6.7
Family, friends & community	59.3	22.7	14.7	2.7	0.7
Teachers	9.3	31.3	41.3	12.0	6.0
Early College Programming	11.9	38.9	29.4	9.2	8.3
Social Media	2.4	17.8	27.9	12.7	29.7
Other	5.4	0.6	2.4	0.6	3.0

Overall, the percentages were very similar between both groups with the exception of a few responses. For example, students indicated that their school/guidance

counselor had a slightly higher impact on their decision if they were leaving Aroostook County rather than staying. Students staying in Aroostook County ranked them as having a “Major Affect” at a rate of 9.3% as compared to those leaving Aroostook County that ranked them at a rate of 15.8%. Teachers also seem to have a higher rate of impact on those students leaving Aroostook County. Students staying in Aroostook County ranked them as having a “Moderate Affect” at a rate of 23.8% as compared to those leaving Aroostook County that ranked them at a rate of 31.3%. Lastly, differences in the impact that social media could be seen. Students staying in Aroostook County ranked this factor as having a “Moderate Affect” at a rate of 9.4% as compared to those leaving Aroostook County that ranked it at a rate of 17.6%.

A second question asking students to rank the same factors from above on a scale of 1 to 5, with 1 being the most significant factor and 5 being the least significant factor, turned out very similar results. Table 7 below outlines the full results.

Table 7

*Rank Order of Factors*

Factors	1 Most Impact	2	3	4	5 Least Impact
My school/guidance counselor	8.6	29.2	30.1	19.3	9.2
My family, friends & community	72.3	13.7	4.5	2.4	4.8
My Teachers	6.0	24.1	32.7	25.0	8.6
Early College (taking college classes)	6.3	15.8	15.8	28.6	30.1
Social Media	5.1	9.2	13.1	17.3	51.8

Once again, family, friends & community was the clear factor, with a 72.3% response rate, that students indicated as the top ranking factor having the most impact on their decision of what to do after completing high school. Also similar to the results from

above was the factor that came in second, a student's school/guidance counselor with a response rate of 29.2%. Teachers were not very far behind with a response rate of 24.1% in the second ranking order. Factors ranking low included participation in early college programs and social media. Both were ranked 5 with 30.1% for early college and 51.8% for social media as response rates. It is interesting to note that early college programming fell in order of importance as compared to the previous question. This is likely due to the fact that in the previous question, the population of students taking advantage of early college programming was pulled and ranked separately. In this question, the response rates includes the total population of students rather than just those taking early college courses. Overall, the rankings fell right in line with the results from the previous question asking students to scale these same factors.

### **School Counselors & Teachers**

As a comparison, similar questions were asked to both school counselors and teachers. This was asked in an effort to gain their perspective and to see if there are differences both between these two groups as well as between the groups and what the students indicated about their plans after high school. In Table 8 below, responses can be seen for both groups.

Table 8

#### *School Counselors & Teachers Perceptions on Plans after High School*

Plans After High School	School Counselors	Teachers
Attend college in Aroostook County	49.0	39.0
Attend college outside of Aroostook County	26.0	30.0
Stay in Aroostook County and find a job	16.0	16.0
Leave Aroostook County and find a job	3.0	6.0
Military	4.0	5.0
Other	3.5	4.0



On average, both groups had similar perceptions in regards to the overall percentage of students going on to pursue post-secondary after graduating from high school. School counselors indicated that 75% of their senior class would pursue higher education and teachers indicated 69% for those same students. Both of these groups came in slightly lower than what the students indicated which was 79.5%. Although the overall average was similar across all 3 groups, the mix of where was slightly different. Student data indicated that 39% planned to stay in Aroostook County for college while school counselors indicated they believed that 49% would stay in Aroostook County for college. There was also a disparity in the percentage of students attending college outside of Aroostook County. Student data showed that 40.5% would be attending college outside of Aroostook County while 26% and 30% were the percentages indicated by school counselors and teachers, respectively. Both groups had the opportunity to indicate plans in an “other” category that may not have been represented in the groupings provided on the survey. Included in the few answers that were entered free form was students attending beauty school, taking a year off or choosing to stay at home and live on welfare.

The factors that impact those student choices was also examined from the school counselor and teacher perspective. Tables 9 and 10 reveal some fairly significant differences in what impact particular factors have the most effect on a student’s decision of what to do after their high school graduation.

Table 9

*School Counselor Perceptions on Choices*

Factors	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
School Counselor	6.7	86.7	6.7	0.0	0.0
Family, friends & community	73.3	26.7	0.0	0.0	0.0
Teachers	20.0	66.7	13.3	0.0	0.0
Early College Programming	33.3	60.0	6.7	0.0	0.0
Social Media	20.0	40.0	20.0	20.0	0.0

Table 10

*Teacher Perceptions on Choices*

Factors	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
School Counselor	16.3	67.3	8.2	6.1	2.0
Family, friends & community	79.6	20.4	0.0	0.0	0.0
Teachers	10.2	73.5	6.1	10.2	0.0
Early College Programming	18.4	44.9	22.4	12.2	2.0
Social Media	2.0	24.0	46.0	14.0	10.0

Both school counselors and teachers agree with students on the factor that has the most effect on a student's decision on what to do after graduating from high school. Family, friends & community was rated in the "Major Affect" category by school counselors at a rate of 73.3% and by teachers at a rate of 79.6%. In examining the second highest factor, there was disagreement between the two groups with each group rating their own category as second highest. School counselors gave a rating of "Moderate Affect" to the school/guidance counselor category at a rate of 86.7%. And, teachers gave a rating of "Moderate Affect" to the teacher category at a rate of 73.5%. Although the percentages are much lower for students, the data did show both school counselors and teachers

coming in as the second highest impact factor. So, the data for the second highest impact factor is congruent amongst the three groups. Drastic differences can be seen on the perceived impact that social media has on student choice. Both school counselors and teachers ranked this impact factor as having a fairly high rating in the “Moderate Affect” category, 40% and 24% respectively. Student data indicated this as the least impactful factor in their decision making process.

School counselors and teachers were also asked about college aspirational programming in their respective high schools. College aspirational programming includes, but is not limited to, events such as coordinated trips to visit colleges, application and financial aid workshops, or one on one college counseling. School counselors reported that, on average, across all high schools, 45% of their time is being spent on college aspirational programming. The disparity between the high schools was significant in that the maximum amount of time reported was 85% and the minimum amount of time was reported was 10%. Teachers had a very different view. This group reported that, on average, across all high school only 22% of time is being spent on college aspirations. The spread was from as little as 2% to as much as 80%. Vast differences could also be seen even when examining one school’s responses. Out of 7 responses from teachers working at the same high school, the spread was as little as 5% to as much as 85%. Another group of teachers working at the same high school reported a spread of as little as 7% to as much as 80%.

### **Discussion**

The preceding research was grounded in two primary hypotheses:

1. There exists a particular culture within Aroostook County high schools that contributes to the outmigration of high school seniors, which leads to rural brain drain being a phenomenon that does exist in Aroostook County.
2. School counselors, teachers, social media, family, friends and community as well as early college programming available in high school are factors that contribute to rural brain drain occurring in Aroostook County.

In order to examine this first hypothesis, it would be useful to review the data collected regarding bachelor's degree attainment as well as college-going rates in Maine. Most notable amongst the data points collected in this study were the college-going rates reported from all three groups surveyed. Students reported that 79.5% have plans to pursue higher education after graduating from high school. School counselors indicated that 75% of their senior class would pursue higher education and teachers indicated 69% for those same students. The results are a stark contrast of what Maine and Aroostook County report out in relation to bachelor's degree attainment. As reported earlier in this research, 85.1% of Aroostook County residents who are 25 or older are high school graduates, and in contrast, only 16.7% hold a bachelor's degree or higher (U.S. Census Bureau, 2014). Additionally, the average percentage of students going on to college over the last 7 years for Maine high school graduates is 62%, much lower than what is anticipated for this upcoming graduating class (Maine Department of Education, 2015). Perhaps this senior class will buck the trend?

It was also reported by this senior class that a slightly higher percentage plans to attend college outside of Aroostook County. Students reported that 39% had plans to pursue their education in Aroostook County while 40.5% reported that they had plans to leave Aroostook County to attain their educational goals. School counselors and teachers

had a slightly different view, in particular when looking at percentages of students they believed were staying in Aroostook County. Teachers ventured to state that far more students were leaving Aroostook County than did the students and the school counselors. With this one notable difference in the reporting of student's plans after graduation, it is hard to say whether rural brain drain is occurring in Aroostook County. However, if you consider the percentages of Aroostook County residents with a bachelor's degree being reported at 16.7% as compared to the 79.5% of students planning to pursue higher education after graduating from high school, one could ascertain that rural brain drain does, in fact, occur. Where to these students go after obtaining their degree? It certainly seems that they are not returning or staying in Aroostook County once they've completed their degree. It is assumed that not every student who begins their education will complete their degree, however, even after attrition the differences in percentages would still lead to the fact that rural brain drain is, in fact, an occurrence in Aroostook County.

One might also venture to conclude that students leaving Aroostook County are more influenced by their school counselors and teachers to do so. School counselors and teachers serve in a unique and important capacity to positively or negatively impact decisions regarding the pursuit of higher education in rural youth (Alleman & Holly, 2013; Irvin, Meece, Byun, Farmer & Hutchins, 2011; Meece, et al., 2013). In all 3 groups surveyed, the school counselor and teachers came in as the second highest influencing factor.

Congruent with the research, family friends, and community came out as the clear number one influencing factor on a student's decision on what to do after high school graduation. Family, friends, and the community play a significant role in shaping the decisions regarding college aspiration and outmigration of youth living in rural areas

(Byun, Meece, Irvin & Hutchins, 2012; Corbett, 2013; Meece, Hutchins, Byun, Farmer, Irvin & Weiss, 2013; Theodori & Theodori, 2014). Students reported this factor in the “Major Affect” category at a rate of 63%, while school counselors and teachers rated it as 73.3% and 79.6% respectively. Clearly, this factor is the most influential.

The impact that social media does not have versus what colleges are expending on social media efforts do not seem to align. According to the 2014 State of College Admission report, 96% of the institutions that responded reported that social media links for their institutions were live and active on their website. This is up from 39% in 2008 (National Association for College Admission Counseling, 2014). However, students reported this as the impact factor with the least affect at a rate of 51.8%. Although school counselors and teachers rated this factor a bit higher than students, it was overall a non-impactful factor.

### **Contribution**

This study is important for school counselors, educators and admissions professionals in an effort to understand what factors might be driving Aroostook County students out of the county. As the recognition that the completion of a college degree becomes increasingly important in today’s society, it is vital to understand what factors impact college aspirations in rural, Aroostook County. This study will further contribute to the research that already exists regarding college aspiration and rural brain drain in rural communities across the United States. Additionally, this study is important for community members and educators at the secondary and post-secondary levels to utilize in local efforts to mitigate the potential out-migration of the youth in Aroostook County.

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Appendix A

Title Page

Rural Brain Drain: A Quantitative Study of the Potential Impact on the  
Youth in Rural Aroostook County

A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF ARTS IN LEADERSHIP STUDIES

UNIVERSITY OF SOUTHERN MAINE

By

Jill Bouchard Cairns

2016

## Appendix B

## THE UNIVERSITY OF SOUTHERN MAINE

May 16, 2016

We hereby recommend that the thesis of Jill Bouchard Cairns entitled *Rural Brain Drain: A Quantitative Study of the Potential Impact on the Youth in Rural Aroostook County* be accepted in partial fulfillment of the requirements for the Degree of Master of Leadership Studies.

\_\_\_\_\_ Advisor

\_\_\_\_\_ Director

Accepted

\_\_\_\_\_

Dean, Lewiston-Auburn College

## Appendix C

## Email to School Counseling Staff

Hi <School Counselor's Name>

I am looking for your direction and help in distributing surveys to school counseling staff, teachers and seniors at Limestone HS. As you may know, I am a graduate student at the University of Southern Maine. For my final project, I am completing a quantitative study to understand what factors contribute to a student's decision to remain or to leave Aroostook County after graduating from high school as well as to study their aspirations to pursue higher education. My hope is that the results of my proposed study will help to inform and educate stronger, more relevant decisions as it relates to the educational aspirations for Aroostook County's rural youth.

I've included copies of the surveys that I would like to distribute to the following three groups: school counseling staff, high school seniors as well as teachers who are in the classroom regularly with your high school seniors. The surveys will require approximately 10 minutes to complete. There is no compensation for responding nor is there any known risk. I also included the Consent and Assent forms that will be included with each survey.

***Because you are the School Counselor and work with the staff and students that I wish to survey, I am reaching out to you for permission to include your high school in my study. If I need to contact someone else, please do let me know.***

Participation is voluntary, however, I strongly urge you to consider being a part of this project. Thank you in advance for taking the time to assist me in my educational endeavors.

Many Thanks,  
Jill Bouchard Cairns  
Graduate Student, University of Southern Maine

## Appendix D

## Student Assent Form and Student Survey

**University of Southern Maine  
Consent for Participation in Research**

**Project Title:** *Rural Brain Drain: Is it impacting the Youth in Aroostook County*

**Principal Investigator(s):**

*Jill Bouchard Cairns, Graduate student candidate (Leadership Studies), University of Southern Maine.*

*Daniel Jenkins, Faculty Advisor, Assistant Professor of Leadership & Organizational Studies, University of Southern Maine, [djenkins@usm.maine.edu](mailto:djenkins@usm.maine.edu), (207)753-6592*

**These are some things we want you to know about research studies:**

We are asking you to be in a research study. Research is a way to test new ideas. Research helps us learn new things. Whether or not to be in this research is your choice. You can say Yes or No. Whatever you decide is OK.

**Why am I being asked to be in this research study?**

You are being asked to be in the study because you are a current high school senior attending a high school in Aroostook County.

**What is the study about?**

This study is about what your plans are after you graduate from high school and what factors might have influenced these plans.

**What are the possible risks/costs of taking part in this study?**

There are no risks or costs that we are aware of associated with your participation in this study.

**How will my privacy be protected?**

All surveys are anonymous and will not require you to include any personal identifiers other than the name of high school you are attending. The study results will be shared with all participants as well as the faculty advisor and classmates at the University of Southern Maine but no one will be able to link you to the project or to your survey answers.

**How will my data be kept confidential?**

The survey will be completed online using SNAP survey software. There is no way to link your survey answers or results to you. The surveys are intended to be anonymous so please do not include any personal identifiers other than the name of high school you are attending.

**What if I don't want to be in this study?**

You do not have to be in the study if you do not want to. Even if you say yes now, you can change your mind later. You can stop participating at any time. It is up to you. No one will be mad at you if you don't want to do this. Please let your School Counseling Office know if you are not interested or if and when you decide to stop participating.

**Whom may I contact with questions?**

The researcher conducting this study is Jill Bouchard Cairns. For questions or more information concerning this research or if you choose to participate in this research study and believe you may have suffered a research related injury, please contact Daniel Jenkins, faculty advisor, at [djenkins@usm.maine.edu](mailto:djenkins@usm.maine.edu), (207)753-6592. If you have any

questions or concerns about your rights as a research subject, you may call the USM Human Protections Administrator at (207) 228-8434 and/or email at [usmorio@maine.edu](mailto:usmorio@maine.edu).

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

## STUDENT SURVEY

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**Please be as honest and truthful as possible in your answers. Your answers will not be tracked and will be kept confidential. By completing this survey and submitting it you are agreeing to be part of the study. Please review the attached form in it's entirety before completing and submitting this survey.**

**#1** – What are your plans after high school?

When I graduate from high school, I plan to:	Please check only <i>ONE</i> – the one you are <i><u>MOST LIKELY</u></i> to pursue after graduation
Attend college in Aroostook County (UMFK, UMPI or NMCC)	
Attend college outside of Aroostook County	
Stay in Aroostook County and find a job	
Leave Aroostook County and find a job	
Join the military	
Other (Please explain):	

**#2** – Please rank the following factors from 1 to 5 with 1 being the factor that had the most impact and 5 being the factor having the least impact on your decision in Question #1.

	Rank Order
My school/guidance counselor	
My family, friends & community	
My teachers	
Early College (taking college classes)	
Social media (Facebook, YouTube, Instagram, Snapchat)	

**#3** – For each of the factors listed below, please indicate to what extent you think each one has on what decisions you are making about what to do after graduating from high school

	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
My school/guidance counselor					
My family, friends & community					
My teachers					
Social media (Facebook, YouTube, Instagram, Snapchat)					
Other (Please explain):					

**#4** - Are you currently, or have you previously, participated in early college (classes from the local university either at the college or at your high school):

YES  NO

If YES, please indicate to what extent this had on your answer to Question #1

	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
Early college					

**#5** - What high school do you currently attend?

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## Appendix E

## Teacher Consent Form and Teacher Survey

**University of Southern Maine  
Consent for Participation in Research**

**Project Title:** *Rural Brain Drain: Is it impacting the Youth in Aroostook County*

**Principal Investigator(s):**

*Jill Bouchard Cairns, Graduate student candidate (Leadership Studies), University of Southern Maine*

*Daniel Jenkins, Faculty Advisor, Assistant Professor of Leadership & Organizational Studies, University of Southern Maine, [djenkins@usm.maine.edu](mailto:djenkins@usm.maine.edu), (207)753-6592*

**Introduction:**

Please read this form, you may also request that the form is read to you. The purpose of this form is to provide you with information about this research study, and if you choose to participate, document your decision. You are encouraged to ask any questions that you may have about this study, now, during or after the project is complete. You can take as much time as you need to decide whether or not you want to participate. Your participation is voluntary.

**Why is this study being done?**

The purpose of this project is to study the post-high school decisions that current high school seniors in Aroostook County are making. The results will help to determine whether rural brain drain is a phenomenon occurring in the County.

**Who will be in this study?**

The study includes high school seniors in Aroostook County, their current teachers, and school counseling staff. Approximately 50 teachers and 40 school counseling professionals will be surveyed. Approximately 650 seniors attending Aroostook County high schools will also be surveyed.

**What will I be asked to do?**

All participants will be asked to complete a one page survey that is anticipated to take roughly 10 to 15 minutes to complete.

**What are the possible risks of taking part in this study?**

There are no foreseeable risks associated with participation in this project.

**What are the possible benefits of taking part in this study?**

There are no direct benefits to you as a participant. All participants in this project will have access to the aggregate survey results and will be sent a final copy of the entire project paper. Participants will be able to utilize the survey results to gain a stronger sense of how they are impacting the decisions that seniors are making about what to do after graduating from high school.

**What will it cost me?**

There are no costs associated with choosing to participate in this project besides your time.

**How will my privacy be protected?**



All surveys can be completed at the time and location of your choice. The project results will be shared with all participants as well as the faculty advisor and classmates at the University of Southern Maine. The results will only be shared in aggregate, this means without any identifiers.

**How will my data be kept confidential?**

The survey will be completed online using SNAP survey software. There is no way to link your survey answers or results to you. The surveys are intended to be anonymous so please do not include any personal identifiers other than the name of high school you are working at.

**What are my rights as a research participant?**

Your participation is voluntary. Your decision to participate will have no impact on your current or future relations with the high school you are working for or USM. You may skip or refuse to answer any question for any reason. If you choose not to participate there is no penalty to you and you will not lose any benefits that you are otherwise entitled to receive. You are free to withdraw from this research study at any time, for any reason. If you choose to withdraw from the research there will be no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.

**Whom may I contact with questions?**

The researcher conducting this study is Jill Bouchard Cairns. For questions or more information concerning this research or if you choose to participate in this research study and believe you may have suffered a research related injury, please contact Daniel Jenkins, faculty advisor, at [djenkins@usm.maine.edu](mailto:djenkins@usm.maine.edu), (207)753-6592. If you have any questions or concerns about your rights as a research subject, you may call the USM Human Protections Administrator at (207) 228-8434 and/or email [usmirb@usm.maine.edu](mailto:usmirb@usm.maine.edu).

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

## TEACHER SURVEY

**Please be as honest and truthful as possible in your answers. Your answers will not be tracked by individual and will be kept confidential. By completing this survey and submitting it you are agreeing to be part of the study. Please review the attached form in it's entirety before completing and submitting this survey.**

#1 – Please indicate the percentage of high school seniors you believe are going to do the following after high school:

	Percentage (Should equal 100%)
Attend college in Aroostook County (UMFK, UMPI or NMCC)	
Attend college outside of Aroostook County	
Stay in Aroostook County and find a job	

Leave Aroostook County and find a job	
Join the military	
Other (Please explain):	

#2 - For each of the factors listed below, please indicate to what extent you think each one has on what decisions your seniors are making about what to do after graduating from high school:

	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
School/guidance counselor					
Family, friends & community					
Teachers					
Participation in Early College programming					
Social media (Facebook, YouTube, Instagram, Snapchat)					
Other (Please explain):					

#3 – Please rank the following factors from 1 to 5 with 1 being the factor that you think has the most impact and 5 being the factor that you think has the least impact on your answers to Question 1

	Rank Order
School/guidance counselor	
Family, friends & community	
Teachers	
Participation in Early College programming	
Social media (Facebook, YouTube, Instagram, Snapchat)	

#4 – Do you teach any Early College courses (dual enrollment or online) YES  NO

#5 – What percentage of time do you think is spent on college aspirations with the seniors in your high school? (for example, individual one-on-one college related counseling, campus visits, assistance with the application and/or financial aid process) \_\_\_\_\_

#6 - What high school do you currently work at? \_\_\_\_\_

## Appendix F

## School Counselor Consent Form and School Counselor Survey

**University of Southern Maine  
Consent for Participation in Research**

**Project Title:** *Rural Brain Drain: Is it impacting the Youth in Aroostook County*

**Principal Investigator(s):**

*Jill Bouchard Cairns, Graduate student candidate (Leadership Studies), University of Southern Maine*

*Daniel Jenkins, Faculty Advisor, Assistant Professor of Leadership & Organizational Studies, University of Southern Maine, [djenkins@usm.maine.edu](mailto:djenkins@usm.maine.edu), (207)753-6592*

**Introduction:**

Please read this form, you may also request that the form is read to you. The purpose of this form is to provide you with information about this research study, and if you choose to participate, document your decision. You are encouraged to ask any questions that you may have about this study, now, during or after the project is complete. You can take as much time as you need to decide whether or not you want to participate. Your participation is voluntary.

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The purpose of this project is to study the post-high school decisions that current high school seniors in Aroostook County are making. The results will help to determine whether rural brain drain is a phenomenon occurring in the County.

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**What will I be asked to do?**

All participants will be asked to complete a one page survey that is anticipated to take roughly 10 to 15 minutes to complete.

**What are the possible risks of taking part in this study?**

There are no foreseeable risks associated with participation in this project.

**What are the possible benefits of taking part in this study?**

There are no direct benefits to you as a participant. All participants in this project will have access to the aggregate survey results and will be sent a final copy of the entire project paper. Participants will be able to utilize the survey results to gain a stronger sense of how they are impacting the decisions that seniors are making about what to do after graduating from high school.

**What will it cost me?**

There are no costs associated with choosing to participate in this project besides your time.

**How will my privacy be protected?**

All surveys can be completed at the time and location of your choice. The project results will be shared with all participants as well as the faculty advisor and classmates at the University of Southern Maine. The results will only be shared in aggregate, this means without any identifiers.

**How will my data be kept confidential?**

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Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

## SCHOOL COUNSELOR SURVEY

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**Please be as honest and truthful as possible in your answers. Your answers will not be tracked by individual and will be kept confidential. By completing this survey and submitting it you are agreeing to be part of the study. Please review the attached consent form in it's entirely before completing and submitting this survey.**

#1 – Please indicate the percentage of high school seniors you believe are going to do the following after high school:

	Percentage (Should equal 100%)
Attend college in Aroostook County (UMFK, UMPI or NMCC)	
Attend college outside of Aroostook County	
Stay in Aroostook County and find a job	

Leave Aroostook County and find a job	
Join the military	
Other (Please explain):	

#2 - For each of the factors listed below, please indicate to what extent you think each one has on what decisions your seniors are making about what to do after graduating from high school:

	Major Affect	Moderate Affect	Neutral	Minor Affect	No Affect
School/guidance counselor					
Family, friends & community					
Teachers					
Participation in Early College programming					
Social media (Facebook, YouTube, Instagram, Snapchat)					
Other (Please explain):					

#3 – Please rank the following factors from 1 to 5 with 1 being the factor that you think has the most impact and 5 being the factor that you think has the least impact on your answers to Question 1

	Rank Order
School/guidance counselor	
Family, friends & community	
Teachers	
Participation in Early College programming	
Social media (Facebook, YouTube, Instagram, Snapchat)	

#4 – How many of the seniors are participating in Early College? \_\_\_\_\_

#5 – What percentage of time do you spend on college aspirations with your seniors? (for example, individual one-on-one college related counseling, campus visits, assistance with the application and/or financial aid process) \_\_\_\_\_

#6 - What high school do you currently work at? \_\_\_\_\_