

Assessment of recruiting methods to enhance poultry science undergraduate programs

By

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Recruitment efforts are important in a college setting. With only six remaining poultry science departments, they specifically need recruitment to help meet extreme demands for students by the industry. However, little is known about which recruitment efforts are effective or if poultry science majors prefer specific recruitment methods. Chapter II of this dissertation is an assessment of current recruitment practices and enrollment of the six poultry science departments in the U.S. Results revealed that all departments currently have recruitment programs and differences were observed within each. Some were in the budget, time spent recruiting, amount of faculty dedicated to recruitment efforts, and activities utilized in recruitment efforts. Chapter III of the dissertation was a comparison of recruitment programs with student numbers, graduation rates, and student satisfaction. This study was conducted in an attempt to understand which recruitment practices work for a given poultry science department and which department, if any, could benefit from a change. Departments with low enrollment counts had variations in recruitment practices when compared to other departments with higher enrollment counts, such as their perceived effectiveness of FFA national convention, direct mailing and brochures, and hosting 4-H and FFA poultry activities. In Chapter IV, a survey was

conducted to determine the influence of factors on student choice among poultry science students. This study determined that conversations with a poultry faculty member or department representative, campus student activities, cost (consist of tuition, room, and board), scholarships, preparation for employment, job opportunities, and high school agriculture teachers were the most influential factors for poultry science students in the decision to major in poultry science. Collectively, these three studies reveal that conversations with prospective students, including campus tours where these conversations can occur, should be utilized. Scholarships, cost, and employment opportunities are also very important to students. Additionally, poultry science department personnel should target FFA events and/or 4-H programs as recruitment opportunities. Other efforts could be used to raise awareness about a poultry science department or poultry science as a major, in general, but might not be effective in recruiting students to a specific department.

DEDICATION

To my loving husband, Gathian, and four children, Audrie, Spencer, Addie, and Ava, who gave me a reason to accomplish the impossible and to my parents Robert and Sandy Benoit for raising me to have the confidence to attempt the impossible.

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CHAPTER I

LITERATURE REVIEW

Introduction

The commercial poultry industry in the U.S. ranks as the world's largest poultry producer (United States Department of Agriculture (USDA), 2018). In 2017, U.S. Poultry and Egg reports that the combined value of all poultry production was \$42.7 billion, which is up 10% from the previous year's sales (U.S. Poultry and Egg Association, 2017). The National Chicken Council states that per capita consumption of poultry has risen from 34.2 pounds in 1960 to 108.6 pounds in 2017 (National Chicken Council, 2018). This will likely continue to rise as the world's population increases to reach 9.7 billion in 2050 (United Nations, 2015). Poultry is often favored more than other meat sources because it is a better value (National Chicken Council, 2018), and it also lacks religious obstacles that other meats possess (Magdelain et al., 2008). The carbon footprint of poultry also falls below that of beef and small ruminants with poultry accounting for only 8% of total animal product emissions (Gerber et al., 2013). Therefore, with a rising population and poultry valued as a cheaper source of protein that is, potentially, a more sustainable source, it could be important to feeding the world in the future. An economic impact study produced by the U.S. Poultry and Egg Association, National Chicken Council, National Turkey Federation and United Egg Producers determined that the combination of chicken, turkey, and eggs generates 1.65 million jobs, \$96.7 billion in wages and approximately \$441.2 billion in yearly economic impacts (National Chicken Council, 2016). With such a large

industry that continues to grow, the demand for new jobs in this industry also rises. Of course, the poultry industry relies, in part, on poultry science graduates from various land grant universities to fill these new positions. Therefore, recruitment of new poultry science students at these land grant universities is essential for the success of the poultry industry.

Student recruitment is a crucial factor in a university's existence. Without recruitment and students, what would be a university's educational purpose? Currently, the National Center for Education Statistics reports a 28% increase in college student enrollment over the last 16 years (Undergraduate Enrollment, 2018). They also project enrollment to increase over the next ten years by at least one million students. Additionally, the FAEIS or Food and Agriculture Information System Database illustrates the same trend for agriculture-related student enrollment with an increase from 2005 to 2012 of 28% (FAEIS Data Center, 2018). However, agriculture-based departments have observed stagnant numbers in the latter years of the past 25 years, while at the same time, undergraduate enrollments were on the rise. In more recent years, Esters and Bowen (2005) reported declining numbers in students within colleges of agriculture. More specifically, for poultry science departments Beck (1992) and Sunde (1972) both reported stagnant numbers in enrollment and a diminishing number of actual poultry science departments. Sunde (1972) specifically stated this reduction was due to low student enrollment in classes within poultry science departments. However, these diminishing numbers can also be related to other factors. Currently, the top six broiler producing states in the U.S. are Alabama, Arkansas, Georgia, Mississippi, North Carolina and Texas (USDA, 2017). These six states are also where the six degree-granting poultry science departments are located in the U.S. Therefore, it could be that the decline in poultry science departments is, in part, a result of an integrated industry that has less outside participation. Without this participation, upper administration within

universities might not see the importance of these departments as degree-granting units. A more recent report from Thaxton-Vizzier (2003) also revealed a decline in enrollment. This is problematic as it is also widely known in the poultry industry that there are not enough students graduating from poultry science departments to suffice industry job demands. In fact, Armstrong (2015) revealed that in 2009 the University of Georgia observed demand for graduates of poultry science to fill vacant positions within the industry that exceeded the number of students graduating.

Statement of the Problem

Poultry science graduates are needed in order to supply an ever-growing industry. Currently, however, there are only six degree-granting poultry science departments offering bachelor's degrees in poultry science (U.S. Poultry and Egg, 2019). Sunde (1972) stated that in 1960 there were 44 poultry science departments that were separate from animal science departments within universities. Sunde (1972) elaborated that the elimination of 23 poultry science departments from 1960 to 1972 was due to the need to eliminate classes with low student enrollment. With such a small number of universities training poultry science students, it is important for these six departments to recruit, retain, and graduate students. Pardue (1990) discussed recruitment practices within poultry science; however, current research is not available on recruitment practices within poultry science departments in the U.S. In addition, current recruiting practices used by these departments as related to student numbers, retention of students, or satisfaction of these students are not well known. Whitaker (2017) and Chamblee (2007) discussed two methods that were utilized for recruitment within their poultry science departments, but these articles did not explore student satisfaction or retention. Therefore, there

is a definite need to determine what recruitment methods are offered, if they are being practiced, which methods are perceived as effective by poultry science department administrators, and whether modifications in recruitment programs are appropriate. Furthermore, it is also important to know what factors influence a student's choice to major in poultry science, so that recommendations for effective recruitment procedures in poultry science departments can be made.

General Background

Student recruitment is essential to every academic program at a university. Retaining quality students in an academic program is as important as student recruitment. Failure to recruit and retain students could jeopardize the existence of an academic program. Many publications on recruitment and retention of students to academic programs, especially to agricultural-related majors, have been provided in the literature (Fraze et al., 2011; Dyer and Breja, 2003; Dyer et al., 2002). Researchers have explored the reasons that undergraduate students select academic programs, including their perceptions of agricultural careers, prior knowledge or experience in agriculture, family and friends, and recruiting methods and efforts that are tailored to agricultural-related majors (Wildman and Torres, 2001; Porter and Umbach, 2006; Rayfield et al., 2013; Chapman, 1981; Herren et al., 2011; Barkley and Parrish, 2005; Thielen, 2012).

However, very little research on recruitment methods in degree-granting poultry science departments, specifically, have been documented or published. Those published materials that can be found discuss the need for students to enter poultry science departments and the lack of interested students. In 1997, Pardue published a journal article discussing the impacts of resource allocation in poultry science departments to meet industry needs. Pardue reported that

even though a decline in poultry science departments and faculty was being observed, poultry meat consumption had increased 185% since 1960. This increase, coupled with the dwindling number of departments, threatens the ability of those existing departments to train an adequate number of students to serve the poultry industry (Pardue, 1997). Previously, Pardue (1991) stated that the poultry industry had been forced to seek employees with a non-poultry science background in order to meet demands. Pardue (1997) also found by surveying industry personnel that they found it difficult to locate poultry science graduates and would prefer to hire poultry science graduates; however, they were unable to, due to the low number of poultry graduates. Similarly, Armstrong (2015) stated that during an interview with a faculty member from the University of Georgia, that their department had struggled to recruit adequate numbers of students to suffice industry demands.

Sunde et al. (1972) revealed how the number of degree-granting poultry science departments were dwindling. Additionally, Cook (1988) stated that over a 20-year period beginning in 1960, twenty-six poultry departments were merged into other departments or eliminated altogether. More recently, Beck (1992) stated that only 15 degree-granting poultry science departments existed in 1992, and Pardue (1997) demonstrated a 75% reduction in degree-granting poultry science departments by 1997 when compared to the original 44. By 2007, Thaxton et al. reported only seven active poultry science departments in the nation (Thaxton et al., 2007). In the approximate 10-year span since the last publication by Thaxton et al., the loss of another poultry science department, Pennsylvania State University, occurred, yielding only six degree-granting poultry science departments (U.S. Poultry and Egg Association, 2019). Yet, as previously mentioned, few studies have documented the student

recruitment methods that may prevent the loss of additional poultry science students and hence subsequent poultry science departments.

One of the few studies exploring innovative recruitment methods in a degree-granting poultry science department was conducted by Chamblee (2007) at Mississippi State University (MSU). Chamblee described an increase of five to six undergraduate poultry science students annually as a result of the poultry education team, a group of undergraduate students assembled to educate the public and assist with student recruitment. However, this research provided no statistical data on student numbers and no follow-up study of the long-term effect of this recruitment effort. A more recent study conducted at North Carolina State University evaluated the effectiveness of their Poultry Science Summer Institute (PSSI) (Whitaker et al., 2017). This program is an overnight summer camp for high school students where they are able to spend a week learning the different aspects of poultry science. Data suggest that an average of 19.35% PSSI participants entered a poultry science four-year degree program (Whitaker et al., 2017). Armstrong (2016) researched methods of recruitment through 4-H into the poultry industry. These methods were thought to be promising avenues, but the lack of knowledge on how to operate these 4-H resources by leaders seemed to prevent their proper function. Additionally, this research only viewed one avenue of possible recruitment of students into the poultry industry. The only other publication discussing recruitment practices within poultry science is by Pardue (1990). Pardue determined that 35% of participants initially selected to major in poultry science were freshman, with 45% of students transferring from another program. Almost 25% of these students had a farm background, with 79% of the respondents previously having worked with some type of poultry. It was also determined by Pardue that the major factor of influence for students choosing the major of poultry science were faculty within poultry science,

followed by parents. While this article details some factors that influence student choice of a poultry science major, it is outdated and only shows trends from 1983 to 1987 within a single department (Pardue, 1990). A major problem with all of these aforementioned poultry recruitment studies is that they only demonstrate one avenue of recruitment in each publication. Each of these publications is useful in considering the effectiveness of an individual recruitment practice, but none of them evaluated multiple recruitment activities and their effectiveness as an overall recruitment program.

In order to understand the overall effectiveness of recruitment programs, various assessments are usually conducted. One method of assessment is an environmental scan. An environmental scan is defined by Albright (2004, p 38) as "...the internal communication of external information about issues that may potentially influence an organization's decision-making process." Albright further describes it as a system that can identify, collect and translate information into useful plans and decisions. An environmental scan is said to be the attainment and use of information demonstrating trends and relationships in the external environment of an organization, which can assist in planning future actions (Choo & Auster, 1993). Furthermore, Boone et al. (2002) state that an environmental scan is a constant process that allows for the identifying, study, and analysis of current, as well as emerging forces that exist in the external environment of a given organization. Choo (2001) states that these environmental scans can be in many different forms, from a casual conversation to a scenario planning exercise, or a more formal, market research program. Peterson et al. (2015) state that environmental scans are usually utilized in business and marketing sectors. These scans are used to gather information and data for the overall decision-making within the organization. However, in more recent years these environmental scans are being utilized in Cooperative Extension. Within Cooperative

Extension, these scans can be utilized to determine any needs or issues within Extension that should be addressed (Peterson et al., 2015). Whether these scans are conducted within corporations or Cooperative Extension, they all have similar steps. The basic steps are provided by Albright (2004) and include: identifying needs, gathering information, analyzing data, communicating results, and making informed decisions.

These steps of an environmental scan can inform the development of a student recruitment plan. However, in poultry science specifically, as previously mentioned, there are only a few publications on recruitment efforts and plans. Pardue (1990) evaluated recruitment strategies and enrollment trends within six poultry science departments. He determined that unlike the decrease observed in most undergraduate enrollment agricultural majors, poultry science departments specifically observed slight increases in student numbers from 1983-1987. Additionally, Pescatore and Harter-Dennis (1987) assessed student recruitment activities that were currently being utilized by poultry science and animal science departments. A survey was conducted with 71 departments in total participating. This assessment concluded that over 80% of the departments were actively utilizing student recruitment activities (Pescatore & Harter-Dennis, 1987).

Even though there is very little research available discussing student recruitment methods in poultry science departments, there is a plethora of information that discusses recruitment practices within higher education, some specifically addressing agriculture majors. For example, a study by Bett and Newcomb (1986) was conducted to determine what recruitment strategies could be utilized in order to attract high achieving students into agricultural colleges. It was concluded that visits to high schools by a college representative, college day programs, a relative's advice, and mail received from colleges, as well as a visit to a student's home by a

college representative, were considered effective by students. Out of these methods, a visit to a college was considered the most effective recruitment practice (Bett and Newcomb, 1986). Martin (2008) also conducted an analysis of recruitment efforts and their effectiveness in colleges of agriculture sciences. It was concluded that current practices needed to be evaluated due to overspending, with minimal increases in enrollment. Also, the study determined that programs, cost, and location were the top three factors affecting why students enrolled in their major (Martin, 2008). Similar studies have been conducted in order to evaluate recruitment efforts, as well as student perceptions of recruitment efforts in agriculture majors (Francis, 2015; Baker et al., 2013; Calvin & Pense, 2013; Cole and Fanno, 1999; Jackman & Smick-Attisano, 1992; Rayfield et al., 2013). Within all of these studies, the ultimate goal was to improve recruitment efforts. Specifically, Francis (2015) stated that recruitment markets are constantly changing, and reassessments are necessary. Robinson et al. (2007) confirmed the importance of constant reassessment of recruitment efforts to be successful. Research has also verified the importance of providing students with accurate information about the major they are pursuing or exploring (Cole & Fanno, 1999).

Aside from examining the effectiveness of student recruitment practices as determined by university personnel, examining why students choose to major in poultry science is also important. There are established theories that explain a student's decisions in choosing a major. David Chapman's (1981) Student College Choice Model has been widely used to explain career choices and factors that influence these choices. This model was designed to assist colleges in designing recruitment policies by demonstrating the influences that impact choices and aid future research in student college choice. According to this model, a student's college choice is determined by background and current characteristics of that student, the family of that student,

and characteristics of the college (Chapel, 1981). There are internal and external factors influencing choices. The internal influences in Chapman’s model are characteristics of the student, such as level of educational aspiration, socioeconomic status, aptitude, and performance while attending high school. The external factors are separated into three general categories: influence of significant persons, characteristics of the institution and efforts to communicate by the university with prospective students. These factors can be observed in the model below:

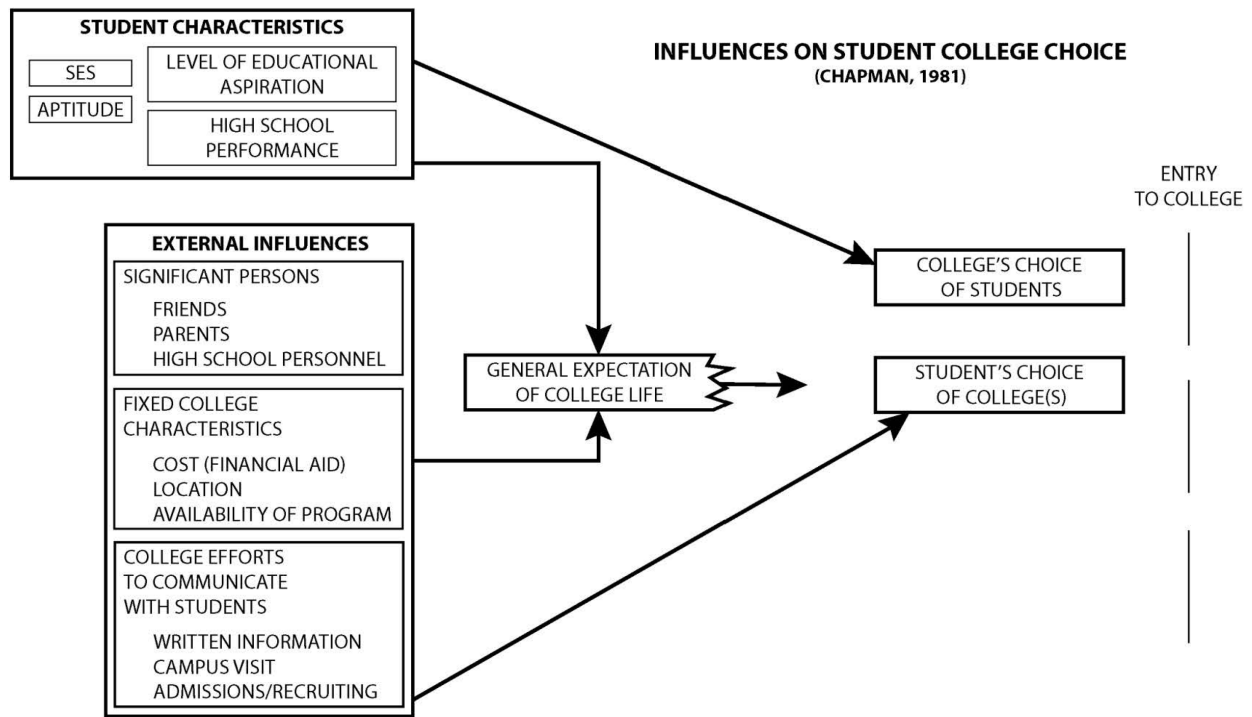


Figure 1.1 Influences on student college choice Chapman’s Model

Chapman’s Model of student college choice (Chapman, 1981)

When discussing external factors, some research goes in depth on the influence a significant person has on student career choice. A study was conducted at Texas A&M, where Rayfield et al. (2013) surveyed students to determine the most important factor that influenced

their decision of college. They determined that 18.1% of students reported their parents to be the most influential person in their college choice, but that other relatives and friends were not influential. Herren et al. (2011) also determined parents and or guardians to be the most influential persons in student career choice. Many other authors have determined the parent to be the most influential person for a student deciding on a major: DeMarie and Alois-Young, 2003; Fancisco et al., 2003; Pappu, 2004; LaBarbera and Simonoff, 1999; and Kimweli and Richards, 1999. Kealy and Rockel (1987) also found that other individuals, including current college students, faculty, and alumni had a significant influence on prospective students. These researchers were looking at multiple majors and fields though, not necessarily agricultural-related majors and certainly not poultry science majors.

More specifically for agriculture majors, there may be a difference in trend from their parents to a significant person who is more in touch with agriculture and who has a larger impact on their decision. For example, Berkley and Parrish (2005) determined that high school agriculture and science teachers impacted a student's college choice. Though, Donnermeyer and Kreps (1994), as well as Schuster and Castantino (1986), both found that when a student's parents had an agriculture background this would impact the student to choose and major in agriculture.

Herren et al. (2011) surveyed the College of Agricultural Sciences and Natural Resource students at Oklahoma State University (OSU) and determined that almost 93% of those students felt as if recruitment materials used as a source of information such as conversations, websites, and campus visits were satisfactory in the information they provided. Herren et al. (2011) also concluded recruitment practices at OSU proved to be effective and that student campus visits were the most useful method of university communication. Donnermeyer and Kreps (1994)

added that college-related sources had an influence on a student's decision of major. These sources include the agriculture major's reputation, facilities available, location and financial incentives. In general, and not necessarily specific to agriculture, Newell and Titus (2001) conducted a study using survey collection from marketing and non-marketing students and reported that catalogs and brochures were more influential on college choice than visiting a campus. Kealy and Rockel (1987) also noted that course catalogs and paper materials were heavily relied on by prospective students, including details about major programs, current student's quotes, and written descriptions of campus life. However, the current digitally driven society may not find printed materials as effective today, as they were in the past.

More specifically to poultry majors, Chamblee (2007) discussed methods of recruitment at Mississippi State University using a recruitment team called the poultry education team. This method utilized face-to-face contact with prospective students to provide student-to-student contact on a more personal level. This method seemed to be an effective method and may fit into Chapman's model of external factors. Barkley and Parrish (2005) found that the friendliness of university recruiters, as well as university atmosphere, had an influence on students' choice of program.

However, Wildman and Torres (2001) found that experience in agriculture was the most influential factor in students choosing a major. Dyer (2002) also suggested that a student's background in agriculture-related high school programs had a large influence on student college choice as far as choosing agriculture colleges. Students from a more rural demographic were more likely to be involved in agriculture in high school and in turn, were more likely to choose to attend and complete a degree in an agriculture field (Dyer, 2002). However, more than 1/3 of respondents in one study said they had no experience in agricultural fields but were attending an

agricultural college (Rayfield et al., 2013). Additionally, Shrestha et al. (2011) also studied current students in the College of Agriculture and Natural Resources at Michigan State University. Their findings reiterated what Rayfield et al. (2013) stated in that the demographics of current students from past students is changing and that many students have little to no knowledge or experience in agriculture prior to college (Shrestha et al., 2011). This suggests that students today that select an agricultural-related major are less likely to have experience in agriculture. Therefore, modern recruiting methods for agricultural majors might need to be tailored to attract not only students with agricultural experience but also those who are not familiar with agriculture.

Another factor determined in Chapman's model that influences a student's choice of college major is socioeconomic status. Montmarquette et al. (2002) determined that, along with other factors, expected earnings were essential in students determining a college major. Rawls et al. (1994) also revealed that not only the availability and location of future jobs but income after graduating had an impact on student college choice.

As previously discussed, there are many research publications on the internal and external factors that influence students to decide on an agriculture major or a specific agricultural department. Some of these papers reveal similar findings of which internal and external factors have the largest impact on student choice while others differ. Additionally, there are a plethora of publications pertaining to recruitment practices within agriculture in higher education. However, it should be noted that very limited research has been published on why students decide to major in poultry science specifically, as well as what recruitment practices are being utilized today in poultry science departments, or the effectiveness of these recruitment practices. One study (Pardue, 1990) discusses factors that influence students to become poultry science

majors. Overall, this single survey concluded that over half of poultry science students are from an agricultural background and half participated in FFA or 4-H. Also, the primary external factor that influenced the student's choice of major was noted to be poultry science faculty at the university (Pardue, 1990). However, this study was conducted 30 years ago and may no longer be applicable to the modern prospective poultry science student.

Purpose of the Study and Objectives

Three studies will be discussed. An overarching objective of all three studies is the development of effective recruitment programs within poultry science departments located in the U.S. Each study will individually answer portions of this overall objective.

The purpose of the first study is to document the nature of recruitment efforts in poultry science departments across the U.S. The environmental scan will document current recruitment practices being utilized at the following poultry science departments in the U.S.: Auburn University, Mississippi State University, North Carolina State University, Texas A&M University, University of Arkansas, and University of Georgia. Items to be explored will include: recruiting budget; enrollment goals and current numbers; strategic plans; current recruitment activities offered and the perceived effectiveness of these activities; staff members; and time allotted to recruitment.

The following question will guide study 1:

- **What is the nature of recruitment efforts among U.S. poultry science departments?**

The purpose of the second study is to determine if current practices of recruitment within the 6 existing poultry science departments are effective at increasing student numbers, aiding with student retention, and yielding satisfied students. More specifically, it will examine relationships

among the observed effectiveness of recruitment practices that are currently in use, student numbers, student retention, and overall student satisfaction.

The following questions will guide study 2:

- **Which recruitment efforts, if any, relate to the number of undergraduate students in each respective poultry science department?**
- **Which recruitment efforts, if any, relate to the graduation rate of undergraduate students in each respective poultry science department?**
- **Does student satisfaction in the major of poultry science differ by the nature of recruitment efforts?**

The purpose of the third study is to determine internal and external factors that influence current undergraduate poultry science students to pursue a major in poultry science. Using Chapman's model as a theoretical perspective, this study will document which factors from the model relate to a student's choosing to major in poultry science. Briefly, factors from the model that will be explored include external factors such as significant persons and characteristics and efforts to communicate by the university. Additionally, the following internal factors will be considered: level of educational aspiration, socioeconomic status, aptitude, and performance while attending high school. Ultimately, this should allow universities to gain an understanding of what influences a student's decision to major in poultry science, and in turn, to modify recruitment methods to be more effective.

The following questions will guide study 3:

- **What internal and external factors influence undergraduate poultry science students' selection of college choice?**

- **Do poultry science department perceptions of recruiting activities mirror those of the students' preferred recruitment methods?**

Significance of Study

Many researchers have explored the reasons that undergraduate students select academic programs and what impacts these decisions (Wildman and Torres, 2001; Porter and Umbach, 2006; Rayfield et al., 2013; Chapman, 1981; Herren et al., 2011; Barkley and Parrish, 2005; Thielen, 2012). Other literature has been published on recruitment and the different methods of attracting students into agricultural majors (Dyer and Breja, 2003; Dyer et al., 2002; Frazee et al., 2001). However, there is little research to determine why poultry science students decide to choose their major and whether/which recruitment methods are effective. Due to the number of degree-granting poultry science departments declining over the last several years (Beck, 1992; Sunde et al., 1972), there is a need for modern published research on current recruitment practices, as well as a student's choice in majoring in poultry science and whether current recruiting methods, if being utilized, are effective. Once the research for this study can be collected, analyzed and published, it can be utilized by the various poultry science departments. Recruiters and upper administration can use these data to update their practices and direct their efforts to effectively recruit students and build student numbers. These data may be utilized when developing five-year college/departmental plans and goals. Additionally, it can also be used to demonstrate to higher level administration which current and new practices will be beneficial to colleges/departments in potentially increasing student enrollment and retention. Ultimately, these findings could inform practices to help maintain and/or increase student enrollment in the six remaining degree-granting poultry science departments. By potentially

increasing the number of students in the six poultry science departments located in the U.S., this research could help to meet the demand for skilled workers within the poultry industry and ultimately feed the world's growing population.

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CHAPTER II
AN ENVIRONMENTAL SCAN OF RECRUITMENT PRACTICES IN POULTRY SCIENCE
DEPARTMENTS LOCATED IN THE UNITED STATES

Abstract

The commercial poultry industry in the U.S. ranks as the world's largest poultry producer (USDA, 2018). With such a large industry that continues to grow, the demand for new jobs in this industry also rises, and they rely, in part, on poultry science graduates from various land grant universities to fill these new positions. Currently, poultry science departments do not graduate enough students to fill positions (Armstrong, 2015), and their recruitment efforts are not well documented. An environmental scan of current recruitment practices will assess these recruitment programs in order to build upon them. Environmental scans identify, study, and analyze current, as well as emerging forces that exist in the external environment of a given organization and should be conducted continuously (Boone et al., 2002). The current research was performed to determine the recruitment efforts utilized in the remaining six degree-granting poultry science departments nationwide. An environmental scan was conducted with these departments to document current recruitment plans, their perceived effectiveness, as well as five-year student enrollment numbers and graduation rates. These data were collected through survey methods and concluded that all poultry science departments have a functioning recruitment program, with an average yearly recruiting budget of \$15,832.00 and have an average of 0.79 employees recruiting. Overall, the poultry science department heads perceived campus visits to

be the most effective recruitment method. Also, a linear increase of enrolled poultry science students was observed over the last five years, with the average enrolled number of students for a department being 68.9 students. These findings can be utilized to begin building solid recruitment plans for remaining poultry science departments.

Introduction

Recruitment efforts are key to the success of universities, individual colleges, and, more specifically, those individual departments housed within a college. Being able to evaluate recruitment efforts is necessary to determine their success. Francis (2015), as well as Robinson et al. (2007), stated that evaluations and reassessments of recruitment programs are essential and necessary. However, before the evaluation process, baseline information on current practices is needed.

Today, there are currently only six degree-granting poultry science departments within universities nationwide (U.S. Poultry and Egg Association, 2019). Even though there is published literature focusing on university recruitment efforts and, even specifically, in agriculture majors, very little exist focusing on poultry science. However, there are a few studies that should be noted. Scanes and Iozzi (1992) and Denton (1998) spoke about poultry science departments and minimally mentioned recruitment efforts being important, though they did not specifically detail recruitment efforts. However, Pardue (1990) evaluated recruitment strategies and enrollment trends within six poultry science departments. He determined that unlike other undergraduate enrollment decreases in most agricultural majors, poultry science departments specifically had observed slight increases in student numbers from 1983-1987. This research also utilized a survey to determine what factors affect student's choice in majoring in poultry science. Overall, the survey concluded that over half of poultry science students

surveyed came from an agricultural background and half participated in FFA or 4-H. Also, the primary external factor that influenced the student's choice of major was noted to be poultry science faculty at the university (Pardue, 1990). Additionally, Pescatore and Harter-Dennis (1987) assessed student recruitment activities that were currently utilized by poultry science and animal science departments. The survey was conducted with 71 departments participating and concluded that over 80% of the departments were actively utilizing student recruitment activities (Pescatore & Harter-Dennis, 1987). The major problem with the aforementioned research is that the most recent publication is almost 30 years old. Therefore, there is a need for current assessments of recruitment practices in poultry science departments. Documentation of current recruitment efforts in these six poultry science departments is the first step toward building effective recruitment programs.

Purpose of the Study

This study was conducted to document the recruitment efforts utilized in the remaining six poultry science departments nationwide. An environmental scan of these departments collected information on current recruitment plans and their perceived effectiveness, as well as 5-year student enrollment numbers and graduation rates. These data were collected through survey methods and were used as the foundation for the following two chapters of this dissertation.

The following question was used to guide this study:

- **What is the nature of recruitment efforts among U.S. poultry science departments?**

Methods

An environmental scan was conducted to identify current recruitment programs by poultry science departments within the U.S. Additionally, the environmental scan identified the

use of specific recruitment practices and documented the perceived effectiveness of these recruitment practices. The results of this study will inform the subsequent chapters of this dissertation.

Population

Department heads from the following degree-granting poultry science departments are the population: Auburn University, Mississippi State University, North Carolina State University, Texas A&M University, University of Arkansas, and University of Georgia. Therefore, the inference space for this research is the entire population of degree-granting poultry science departments within the U.S. instead of only a subset of this population. Because the population consists of only six individuals, individual responses can greatly influence the overall averages obtained.

Variables, Measures, and Instrumentation

A web-based survey was used to collect data from the department heads. The survey began with a statement defining the concept of “recruitment programs.” This definition was provided to help department heads answer subsequent survey questions. Next, department heads were asked to identify what university they represented. This was a close-ended question that provided a list of the six poultry science departments eligible to participate in this study.

The department heads were asked about the departmental recruitment program in questions 3 – 5. Questions 6 and 7 on the survey asked for the number of part- and full-time employees who recruit students and to identify the number of personnel who spend time recruiting annually. Department heads selected the number of part-time employees who worked with recruitment and the number of full-time employees who worked with recruitment from

responses options that ranged from the number “0” to “more than 5.” The number “6” was used in calculations when the department head selected the response “more than 5 employees.” For calculation purposes of the total number of employees recruiting, the number of full-time employees was multiplied by 1 and the number of part-time employees was multiplied by 0.5.

Question 8 asked how much time these employees spent on recruitment in a year. The response options to this question were “less than 10%”, “more than 10% but less than 25%”, “more than 25% but less than 50%”, “more than 50% but less than 75%”, or “more than 75% of their worktime”. The average of the range was then selected for each answer obtained for each department. From Questions 6-8, Full Time Employee (FTE) was calculated by multiplying the total number of employees obtained from Question 6 and 7 by the calculated average range obtained from question 8.

Questions 9 - 11 were about the recruitment budget and whether the budget amount had decreased or increased over the past 5 years. These questions’ response options were close-ended. Questions 12-14 asked for student enrollment numbers and graduation rates in 2014, 2015, 2016, 2017, and 2018. These questions were open-ended in order for the departmental representative to give the exact number of enrolled students during the aforementioned years and the graduation rate for these years. Question 14 asked for information that the department would have previously reported in their Food and Agricultural Education Information System (FAIES) report. Question 15 was a two-pronged question. First, it asked whether a recruitment plan was in place and provided a “Yes” or “No” response option. In this same question, department heads were asked to state their perception of the effectiveness of the recruitment plan. The response option was a Likert-type scale that ranged from “1—Not Effective” to “5—Highly Effective.” Lastly, question 16 provided a list of specific recruitment activities. These activities ranged from

“visits to high schools” to “advertising in/on public posters billboards.” For each activity presented, the department head was asked to rate his/her perceived effectiveness, ranging from “1—Not Effective” to “5—Highly Effective.” Next, the department head was asked whether or not (“Yes” or “No”) this activity had been used by his/her department in the last five years to recruit students and whether or not (“Yes” or “No”) this activity would be continued in the next five years. Question 16 was formatted as a matrix question.

Data Collection

This descriptive study used an environmental scan through survey methods consisting of a single survey distributed to each of the degree-granting poultry science department heads in the U.S. The survey tool was developed to describe current recruitment practices as well as student numbers and graduation rates at each degree-granting poultry science department. The survey was developed and then distributed to four faculty and staff members within the poultry science department at Mississippi State University to determine its face validity.

The Regulatory Compliance Institutional Review Board at Mississippi State University approved research procedures on October 25, 2018 (Appendix A). Immediately following approval, each poultry science department head for each poultry science department was contacted by the department head at Mississippi State University and made aware of the study as well as their potential participation. The emails of each department head for the six degree-granting poultry science departments were collected from the department head at Mississippi State University. Once participation and cooperation were discussed with these representatives, each department head received an email that provided an overview of the study and its importance. It also provided information about possible incentives for completion of the survey such as gift card drawings.

In October 2018, another email was sent to department heads. The general description of the study was restated, an informed consent statement was provided (Appendix B), and a link to the survey was provided in the email. This survey was distributed to department heads in October 2018 because the yearly recruitment cycle generally finishes around October (Appendix C). The survey was administered online using Qualtrics survey software (Qualtrics, Provo, UT).

Reminder emails were sent to each department head at week one and week two after the initial survey was distributed. Two follow-up email requests were sent as reminders to submit the survey to all department heads who had not completed the survey after three weeks. After responses were submitted a “Thank you” email and confirmation of participation for possible incentives were sent to the respondent. Data collection was complete three weeks after the last follow-up email was sent to department heads.

Data Analysis

Averages across departments were obtained for all survey results. Additionally, to determine if poultry science student enrollment has increased over time, individual department enrollment, as well as averages of enrollment across all six departments were subjected to linear regression analysis for Fall 2014 to Fall 2018 (Steele and Torrie, 1980).

Results and Discussion

All six departments had a department head complete the survey for this study, thus yielding a 100% return rate. When observing data collected from the environmental scan, all six poultry departments had a current recruitment program. This differs from early reports by Pescatore and Harter-Dennis (1987), where they found that only 80% of the 71 poultry and animal science departments had recruitment activities. The departments within the current study

stated that they have had a recruitment program in place for more than ten years. However, only five of the departments indicated an increase in recruitment functions since initiation of the program, with one department stating it has “neither increased nor decreased in function” since it began.

As observed in Figure 2.1, department 4 indicated the greatest number of employees recruiting with 1.31; however, the lowest number of employees recruiting were reported by department 6 with 0.25 employees. An overall average number of 0.79 employees spent time recruiting students for a poultry science department.

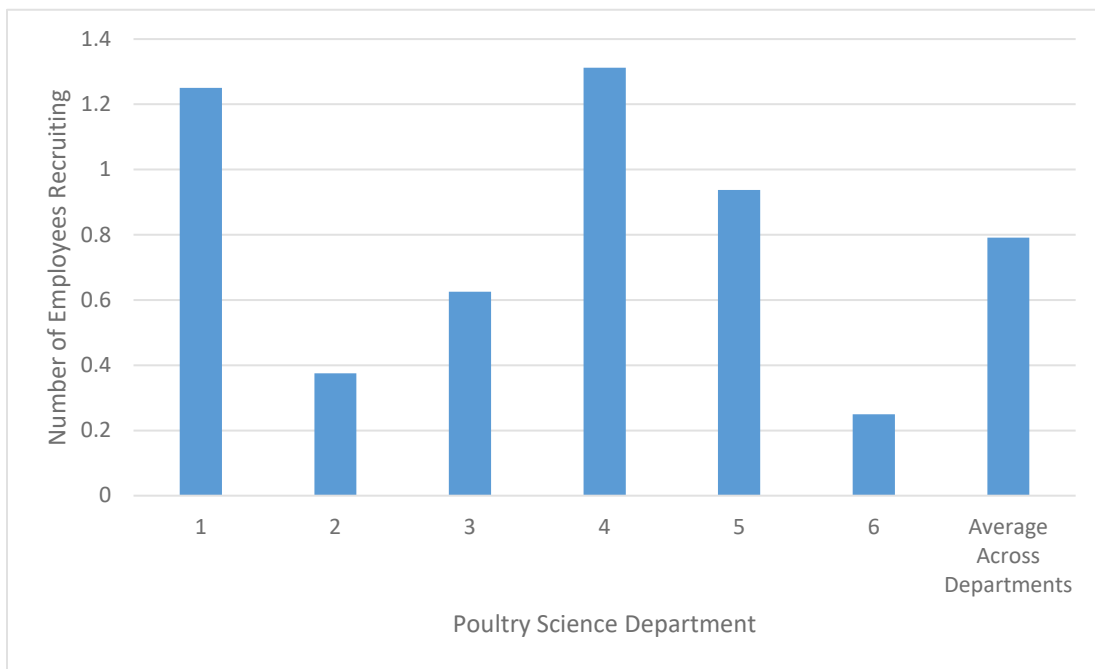


Figure 2.1 Yearly number of employees recruiting (FTE) poultry science students at each of the six poultry science departments in the U.S.

The graph demonstrates the number of FTE for the poultry science departments (n=6) as of Fall 2018, and the average FTE of all six poultry science departments.

Each poultry science department was given a multiple-choice option of budget range allotted for yearly recruitment. Figure 2.2 demonstrates the yearly recruitment budget range recorded for each of the six departments, with the yearly average recruitment budget for poultry science recruitment being \$22,500.00 to \$38,233.00. Of the six departments, the two lowest budget ranges also reported a decrease in recruitment budgets over the last 5 years. Also, one department stated their budget “remained the same” for the last 5 years, with the other three reporting increases. Those reporting increases also had the three highest budgets of the six departments. It should be noted, however, that higher budgets do not necessarily mean better recruitment. Martin (2008) reported that spending on recruitment should be evaluated because the return was minimal in student enrollment. However, Thaxton-Vizzier (2003) discussed the fact that the U.S. Poultry and Egg Association had allocated \$120,000 between eight departments in 2001 to be spent on recruitment. The current study revealed that the six remaining departments, collectively, reported budgets ranging from \$130,000 to \$230,000, therefore it could be argued that the linear increase in student numbers discussed below could be due to increase in budget spent on recruitment. However, no conclusive statement can be made without further research in this area.

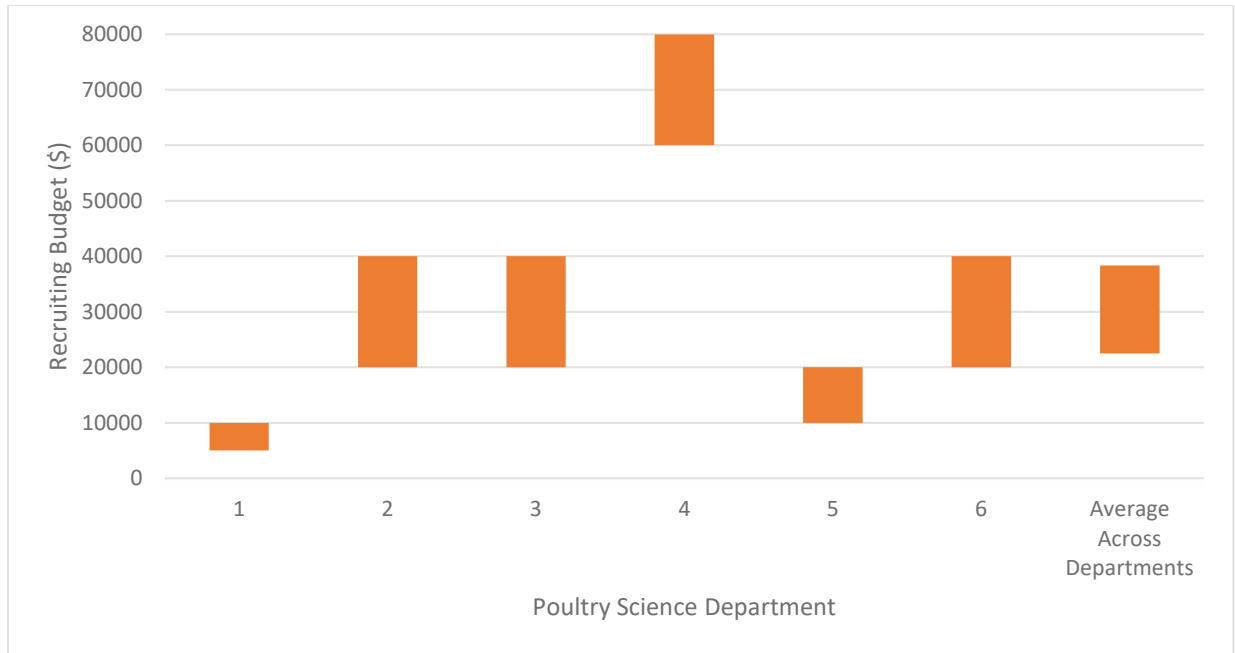


Figure 2.2 Average yearly recruitment budget range for the six poultry science departments in the U.S.

The graph demonstrates the range in the budget for each of the poultry science departments (n=6) and the average of all of the departments combined for Fall 2018.

Enrollment counts for each department were collected over a 5-year period beginning in 2014. The data included overall enrollment, freshman enrollment, and transfer enrollment counts for each year. An overall average of the 5-year period was then calculated for each department. Figure 2.3 illustrates these averages. The largest average number of enrolled students for a single department was 133, with the smallest department having an average of 22.8. Each department's student enrollment for each year beginning in 2014 and ending with 2018 can be observed in Table 2.1. Also, the overall average of students majoring in poultry science for each year beginning in 2014 and ending in 2018 was reported along with freshman and transfer enrollment numbers for these consecutive 5 years. These data can also be observed in Figure 2.4, where a linear increase can be observed for the average students over a 5-year

period (P=0.0491). Also, when considering each department individually, only 3 departments exhibited a linear increase: Department 1 (P=0.0343, Figure 2.5), Department 2 (P=0.0099, Figure 2.6) and Department 6 (P=0.0096, Figure 2.7). These findings differ from earlier published work discussing a continuous decline in poultry science student numbers (Beck, 1992; Sunde, 1972; and Thaxton-Vizzier et al., 2003). Perhaps some of the recruitment efforts recorded by these departments in the current study are, in fact, effective when compared to recruiting efforts in years past.

Table 2.1 Enrollment counts for each poultry science department over a 5-year period

Poultry Science Department	Fall 2014 Enrollment	Fall 2015 Enrollment	Fall 2016 Enrollment	Fall 2017 Enrollment	Fall 2018 Enrollment	5 Year Average Enrollment
1	83	79	85	102	110	91.8
2	49	54	56	69	70	59.6
3	36	31	34	40	41	36.4
4	134	117	111	140	163	133.0
5	23	22	19	25	25	22.8
6	55	66	71	79	79	70.0
Yearly Average Enrollment	63.3	61.5	62.7	75.8	81.3	

5 Year Average Enrollment consisted of the Fall 2014 through the Fall 2018 enrollment years. The Table illustrates the poultry science departments (n=6) and their total overall enrollment counts for each year over a 5-year period (each Fall from 2014 to 2018). The yearly average for all six poultry science departments over the 5-year period, as well as the overall average for the 5-year period for each department listed.

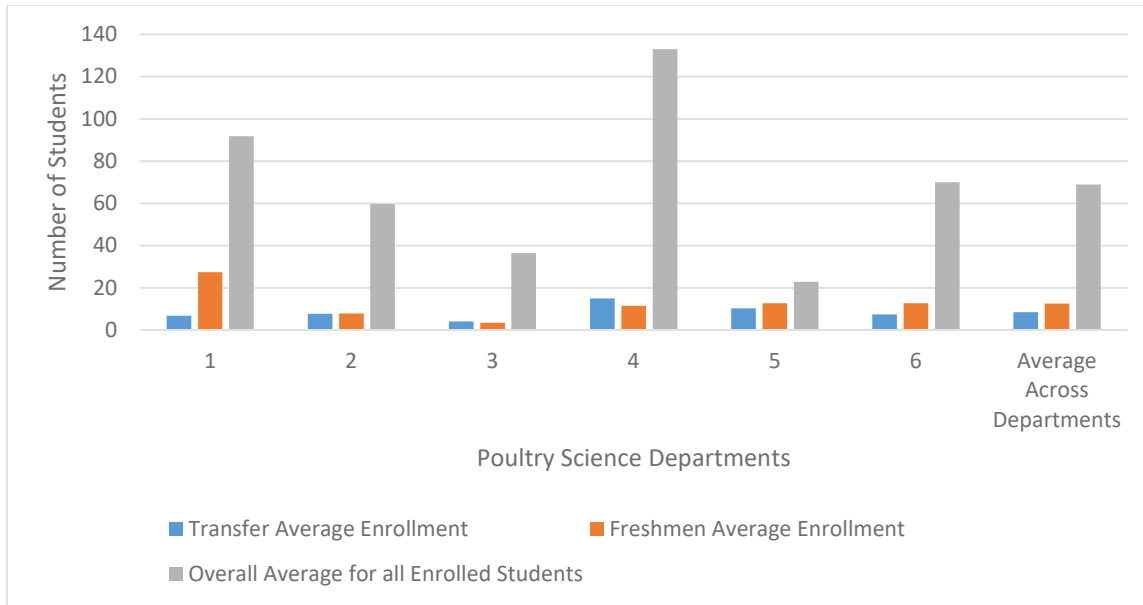


Figure 2.3 Average enrollment for the six poultry science departments in the U.S. for all poultry science majors, freshmen, and transfer students from 2014 to 2018.

The number of overall average enrollment numbers for the six poultry science departments (n=6) is illustrated in “grey”, with the freshmen average enrollment for each department in orange and the transfer average enrollment in “blue”. Each data point is for a 5-year period (each Fall from 2014 to 2018). A five-year average for overall enrollment, freshmen enrollment, and transfer enrollment is also illustrated. Overall enrollment includes continuing students as well as, freshmen and transfer.

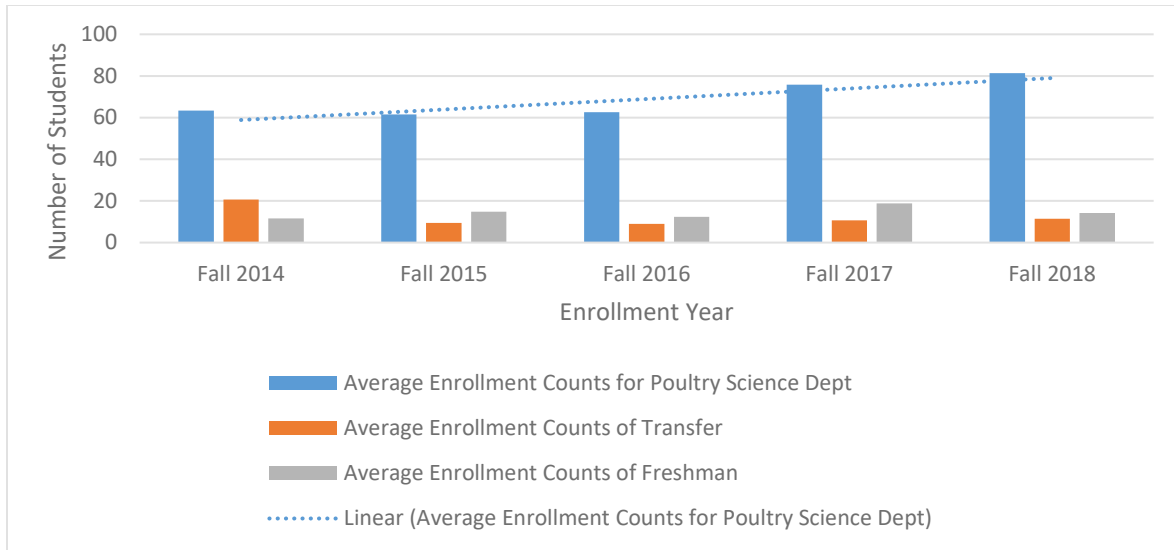


Figure 2.4 Average of overall enrolled, freshman and transfer students for each year in a 5-year period for poultry science departments nationwide.

A linear increase in average overall student enrollment was detected over the 5-year period (each Fall from 2014 to 2018). $y=5.03x-11.06$; $P=0.0491$. The average overall enrollment, transfer enrollment and freshmen enrollment for each year for all poultry science departments ($n=6$) is illustrated. Overall enrollment includes continuing students, as well as, freshmen and transfer.

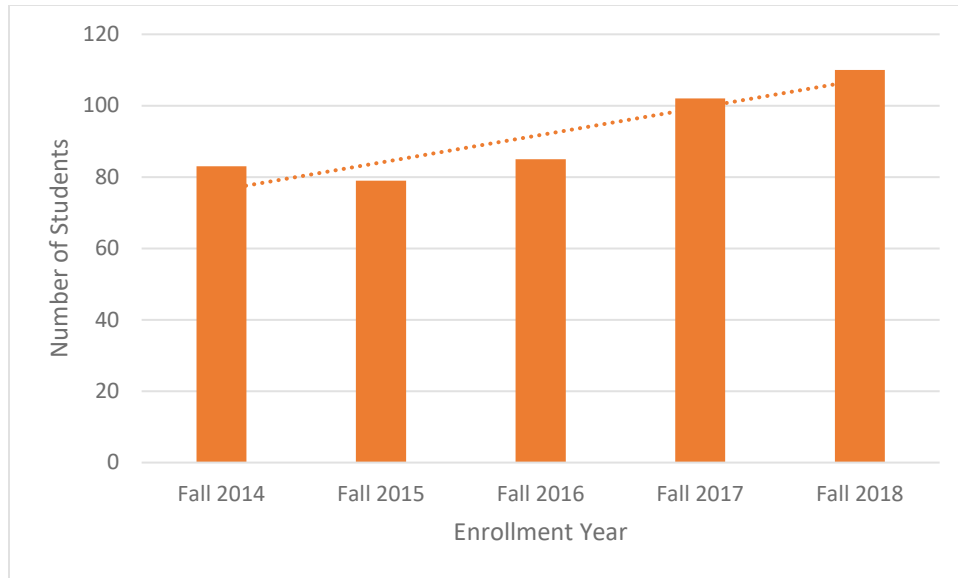


Figure 2.5 Poultry department number 1 linear increase in overall enrolled students over a 5 year period

A linear increase in overall student enrollment for poultry department 1 for the 5-year period (each from Fall 2014 to 2018) is illustrated $y=7.7x-31.4$; $P=0.034$. Overall enrollment includes continuing students, as well as, freshmen and transfer.

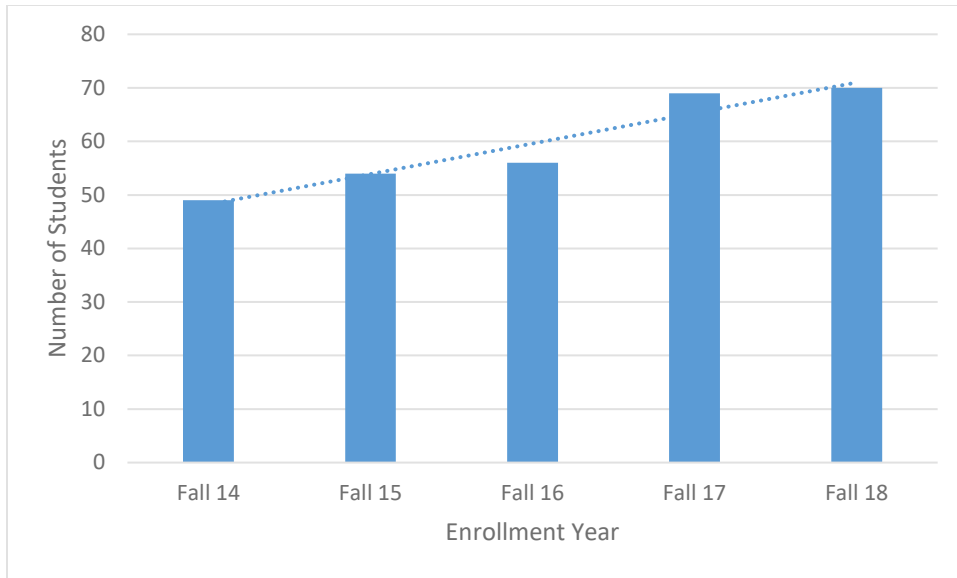


Figure 2.6 Poultry department number 2 linear increase in overall enrolled students over a 5-year period.

A linear increase in overall student enrollment for poultry department 2 for the 5-year period (each from Fall 2014 to 2018) is illustrated $y=5.7x-31.6$; $P=0.0099$. Overall enrollment includes continuing students, as well as, freshmen and transfer.

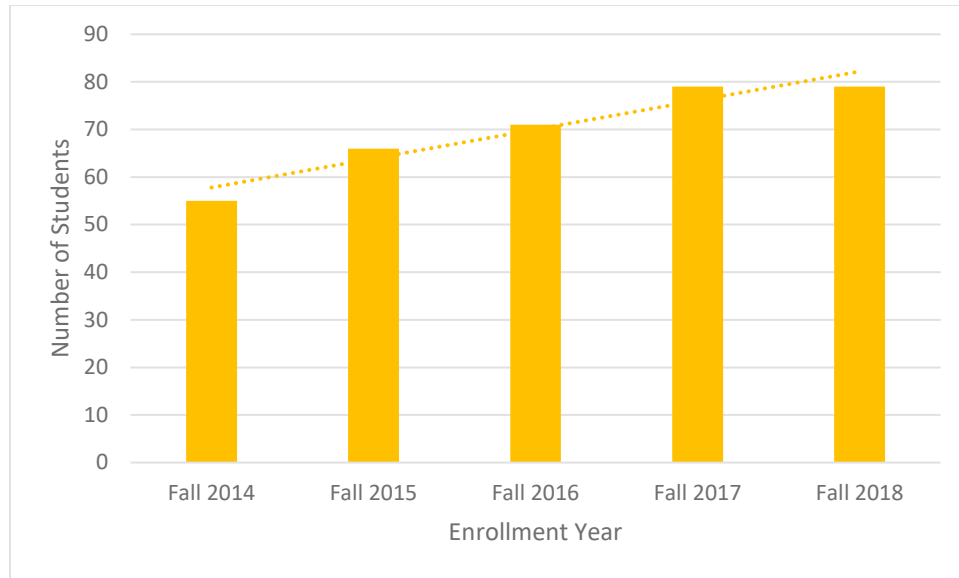


Figure 2.7 Poultry department number 6 linear increase in overall enrolled students over a 5-year period.

A linear increase in overall student enrollment for poultry department 2 for the 5 year period (each from Fall 2014 to 2018) is illustrated $y=6.1x-27.6$; $P=0.0096$. Overall enrollment includes continuing students, as well as, freshmen and transfer.

Also, the graduation rate for each department was calculated and reported by each department head. The most current 6-year graduation rate was collected for each department, beginning with students entering the poultry science department in 2012 and graduating by 2018. Figure 2.8 illustrates each graduation rate, as well as the average graduation rate for poultry science students nationwide.

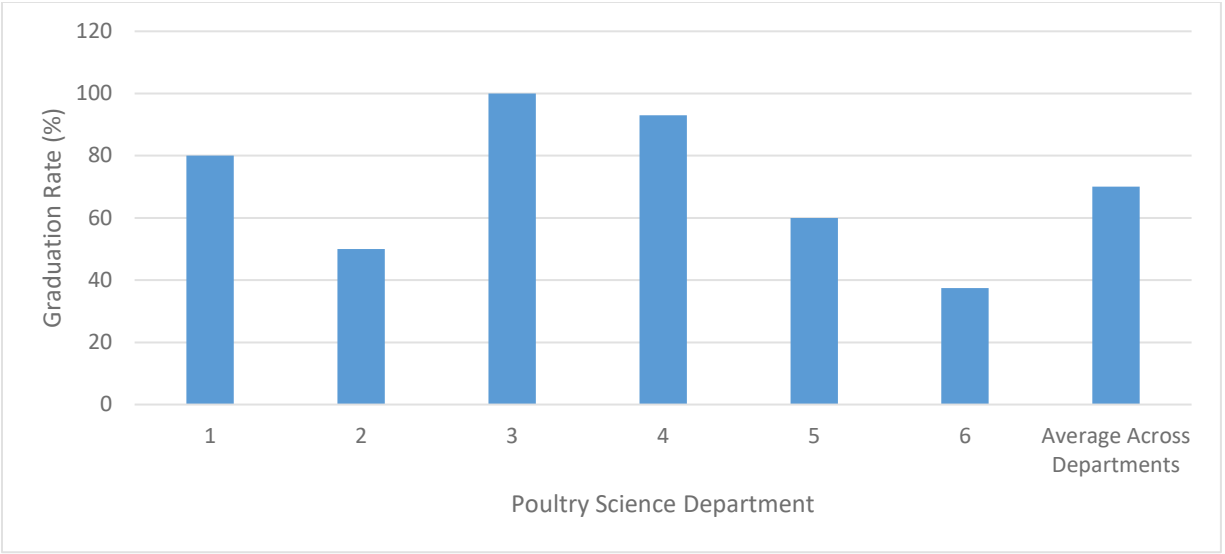


Figure 2.8 Average graduation rate reported as a percentage for each department of poultry science.

The graduation rate (%) was from the cohort of students beginning in Fall 2012 and graduating within 6 years (August 31, 2018). The cohort is illustrated for each of the six poultry science departments (n=6) as well as an overall average graduation percentage for all 6 departments.

The last portion of information that department heads were asked pertained to recruitment plans that described goals and activities for the department to attract students. Within the six poultry science departments, five department heads selected the response option “they currently have a recruitment plan in place that describes goals and activities of the department to attract students.” The remaining one stating there is “no recruitment plan” currently in place within their program. Of those 5 departments that reported a recruitment plan, all perceived the current plan to be “Effective” or “Highly Effective” on a Likert-type scale. Regardless of whether a department had a plan in place, department heads selected the current activities they utilize to recruit students and rated the perceived effectiveness of the activities used by their respective department. Because not all activities were utilized by all departments, only individual activities selected by a department were used for the average Likert-type scale number demonstrated in

Figure 2.9. It is apparent from this figure that on average, poultry science departments find advertisements in public (i.e., billboards and posters) to be least effective and campus visits by prospective students are considered most effective. This coincides with early reports from Bett and Newcomb (1986) for agriculture majors, whereas visits to a college campus were the only recruitment activity ranked as “Highly Effective.” All activities listed on the current survey were utilized by at least one department.

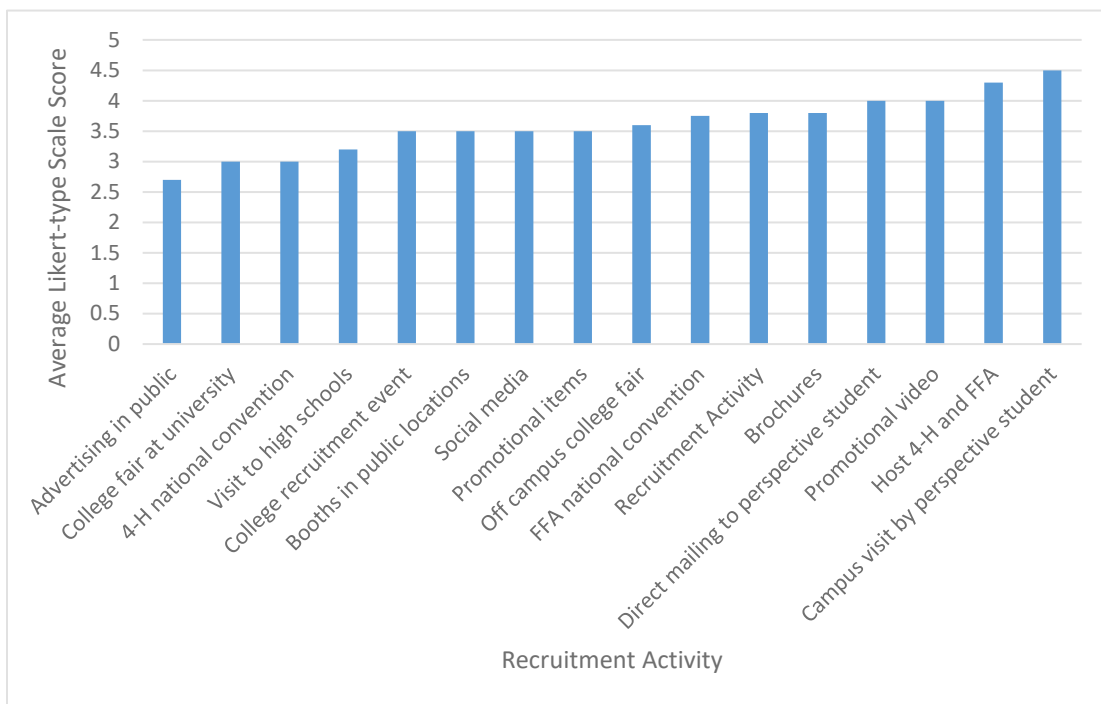


Figure 2.9 Average Likert-type score of recruitment activities as ranked on effectiveness by poultry science department heads.

Average Likert-type scores are for all poultry science departments (n=6). Each department head was asked to provide a rank (scale of 1 to 5) for each recruitment activity. Averages were then calculated for an overall average Likert-type scale score.

Looking at each recruitment method individually, general recruitment activity, and visits to campus by prospective students were unanimously ranked as “Effective” (4) or “Highly

Effective” (5) by all departments. Direct mailing to students, hosting 4-H and FFA poultry activities, and brochures and pamphlets were also ranked as “Effective” (4) or “Highly Effective” (5) by all but one department. These high ranks are similar to those reported by Herren (2011) who stated that printed materials, such as letters and brochures, were deemed important in their survey of recruitment methods of agriculture majors. “Visits to high schools” had an average of 3.2 on the Likert-type scale; however, when looking individually at the rank, 3 universities ranked it “Effective” (4), one university ranked it “Highly Effective” (5, it should be noted that this university ranked every item on the list as “Highly Effective”) and only one university ranked it as “Not Effective” (1). The only university who found this item “Not Effective” also stated they had not utilize this recruitment method in the past 5 years. College recruitment events were considered “Effective” (4) or “Highly Effective” (5) by 3 universities, with two more being “Neutral” (3) and one stating it to be “Not Effective” (1). College fairs were considered “Not Effective” (1) by the majority of departments, with 4 out of 6 claiming them to be “Not Effective” (1), but only one of these four ranking it as “Not Effective” (1) has not utilized this activity over the past five years. The two remaining departments scored this activity as “Highly Effective” (5). Contrary to the on-campus recruiting event, the off-campus event had only one “Not Effective” (1) rank. However, it is important to consider that this department has not utilized it as a recruitment method over the last five years. Additionally, three departments ranked this activity as “Neutral” (3), with the remaining 2 departments stating it was “Effective” (4) or “Highly Effective” (5). Displays and booths were ranked as “Neutral” (3) by 3 departments and “Not Effective” (1) by 2; however, these 2 have not utilized this activity in the past five years. When discussing the recruitment method of displays and booths, a study conducted by Chamblee (2007) stated that utilizing a team of students to set up displays

and booths in local markets proved to be effective in recruiting students into poultry science and increased student numbers by 5 to 6 students each year. However, the data were not statistically analyzed to prove there was an increase in numbers. One department gave a “Highly Effective” (5) rank for booths, but again it should be noted that this department considered all recruitment activities to be “Highly Effective.” Advertisement in public such as billboards and posters were not utilized by 3 departments and said to be “Less Effective (2) or “Not Effective” (1) by 2 departments, with the only other score being the single department who scored all recruitment activities as “Highly Effective” (5). Social media was given 3 scores of “Effective” (4) or “Highly Effective” (5) and 2 departments stating it to be “Neutral” (3). One single department stated it was “Not Effective” (1). For 4-H and FFA national conventions a surprising difference between the two ranks was observed. For 4-H, only two universities utilized this activity in the past five years and those departments consider it to be “Neutral” (3) in rank. Contrary to this, for the FFA convention, four of the six departments utilize this event as a recruiting tool, with 3 of them considering it to be “Effective” (4) and one considering it “Highly Effective” (5). Armstrong (2016) considered 4-H and FFA as being an effective recruitment method for agriculture majors. Perhaps poultry science departments who do not consider 4-H or FFA conventions as effective may need to reconsider. Promotional videos were utilized by 4 departments with 1 considering it “Neutral” (3) and the rest finding it “Effective” (4) or “Highly Effective” (5). Lastly, for promotional items or handouts, 3 departments found them “Effective” (4), 2 “Neutral” (3), and 1 perceived them as “Not effective” (1).

Again, of all of the listed activities, campus visits by prospective students were ranked higher than other listed activities by department heads. This was in agreement with Herren

(2011) who stated that there should be an increase in opportunities for prospective students to visit a university campus, as it is highly preferred by students.

A large quantity of data was reported through this assessment of recruitment in poultry science departments. These data indicate that recruitment practices are being utilized by all of the six poultry science departments located in the nation. However, recruitment practices differ in the extent of how they are utilized by each department and whether the departments have determined them to be “Effective” or “Not Effective.” Information regarding the extent of their recruitment programs was also gathered. Variation was observed in the number of employees that spend time recruiting and amount of budget dedicated to recruiting. Aside from recruitment practices reported from each department, enrollment over a five-year period was also collected. These numbers, as well as more detailed student numbers (i.e. freshmen, transfer students, and graduation rates), were also gathered. All the information gathered from this assessment of recruitment in poultry science departments is needed information to begin working toward a successful recruitment plan of poultry science students. These data can be utilized to build the foundation needed for future studies to build upon when analyzing recruitment of poultry science students. From reported data on budgets, number of students, number of employees recruiting for departments, and activities being utilized by poultry science departments, conclusions can be made as to how effective poultry science departments are recruiting. If these data were collected longitudinally, better conclusions could be drawn. The above data, coupled with study 2 and study 3 within this dissertation will assist in determining the effectiveness in recruitment, as well as what should be done in the future for recruitment programs in poultry science.

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CHAPTER III
CURRENT RECRUITMENT PRACTICES AND THEIR RELATIONSHIP WITH STUDENT
NUMBERS, GRADUATION RATES, AND SATISFACTION WITHIN POULTRY
SCIENCE DEPARTMENTS

Abstract

As early as 1972 (Sunde) and again in 1992 (Beck), reports of stagnant numbers in enrollment of poultry science students have been observed. Even more recently in 2003, Vizzier-Thaxton found declines in enrollment. Also, Armstrong (2015) noted that in 2009, the demand for University of Georgia poultry science graduates to fill vacant positions within the industry exceeded the number of students graduating. With declining numbers and an increase in demand for graduates, it is important to understand how to recruit poultry science students in order to increase enrollment and work towards meeting industry demands. Therefore, this study was conducted to determine the effectiveness of recruitment efforts utilized in poultry science departments nationwide. Utilizing information collected in an environmental scan of these departments from Chapter II, data were compared to determine if current recruitment efforts have an effect on student enrollment, graduation rates or student satisfaction. The study concluded that different recruitment practices were found “Effective” by the six poultry science departments. However, a few of the activities found “Effective” by schools with high enrollment counts were not viewed as “Effective” by departments with lower enrollment counts, suggesting that these activities have importance. These activities include recruiting at FFA national

convention, direct mailing, brochures/pamphlets, and hosting 4-H/FFA poultry activities. However, it must be noted, general recruiting budgets and number of employees that recruit were not statistically correlated with enrolled student numbers, graduation rate, or student satisfaction. Overall, these findings suggest that there are recruitment efforts in place that may be more effective than others and also that some alterations may need to be developed in order to strengthen recruitment efforts for poultry science departments.

Introduction

Poultry science graduates are needed in order to supply an ever-growing industry with new skilled employees. However, there are currently only six degree-granting poultry science departments within U.S. universities offering Bachelor of Science degrees in poultry science (U.S. Poultry and Egg Association, 2019). Sunde (1972) stated that in 1960 there were 44 poultry science departments that were separate from animal science departments within universities. He revealed that many poultry science departments had been eliminated by 1960 due to small enrollment classes. This reduction in the number of poultry science departments has been reiterated by others (Cook, 1988; Beck, 1992; Pardue, 1997; and Vizzier-Thaxton et al., 2007). One method of combating low student enrollment, and hence elimination of poultry programs, is through recruitment efforts by the remaining six poultry science departments. Of course, these recruitment methods must be effective and must yield not only a greater number of enrolled students but also a greater number of students graduating in poultry science. Unfortunately, there is little published data on poultry science students and which recruitment methods they specifically prefer. The most recent publication was from North Carolina State University, in which Whitaker et al. (2017) conducted a study to determine if the Poultry Science Summer Institute, a 5-day overnight camp for high school students to attend and learn about

poultry science, was an effective recruitment tool. It was concluded that an average of 19.35% of the students who participated in the camp would attend North Carolina State University and major in poultry science. A second publication evaluated a recruitment method at the Mississippi State University Department of Poultry Science, known as the Poultry Education Team (Chamblee, 2007). However, no long-term data were statistically analyzed on the effectiveness of this team and it is no longer utilized. Yet, few studies have documented what is being done in regard to student recruitment to prevent the loss of additional poultry science departments. While both of these studies are beneficial in understanding two recruitment methods that have been utilized, neither of these studies navigate through overall recruitment methods for poultry science departments, nor reveal which methods are most effective. Therefore, determining the effectiveness of recruitment methods gathered from the environmental scan in the first study of this dissertation is of utmost importance.

Purpose of the Study

The purpose of this study was to determine if current practices of recruitment within the six existing poultry science departments are effective at increasing student numbers, aiding with student retention and yielding satisfied students. More specifically, it aimed to assess which recruitment practices are effective at increasing student numbers, retention, and overall student satisfaction.

The following questions will guide this study:

- **Which recruitment efforts, if any, relate to the number of undergraduate students in each respective poultry science department?**
- **Which recruitment efforts, if any, relate to the retention of undergraduate students in each respective poultry science department?**

- **Does student satisfaction in the major of poultry science differ by the nature of recruitment efforts?**

Methods

A correlational design was utilized to determine relationships among current recruitment efforts, student numbers, graduation rates, and student satisfaction. The data collected from the first study through survey methodology was used, along with information collected through an additional survey from all current poultry science students at all six U.S. poultry science departments. Data from 2 of the 27 questions on the student survey were used in the current study.

This study presented some weaknesses because correlational research cannot prove causation between the variables of interest. Rather, only the association between variables can be determined. Also, the actual population number is relatively small, due to the fact that only six poultry science departments are in existence in the U.S. With such a small population, a single unexpected result from just one of the poultry science departments can have a major impact on the data, and thus analysis and interpretation. However, this same weakness can also be viewed as a strength. Because there are only six poultry science departments nationwide and all students within these departments were given the survey for data collection, the findings of this study actually include the entire population and are all-inclusive. As such, these data are specific to poultry science department students and can be discussed as conclusive for the entire population of students majoring in poultry science.

Population

Two populations were included in this study. Department heads of poultry science degree-granting departments were the first population. This population was described in study 1, Chapter II. Students currently enrolled in the six degree-granting poultry science departments as of Fall 2018 were the second population. This population was any fulltime poultry science undergraduate student located in the U.S., ranging in class rank from freshman to senior as of Fall 2018, and could be male or female of any age. The six degree-granting poultry science departments are Auburn University, Mississippi State University, North Carolina State University, Texas A&M University, University of Arkansas, and University of Georgia.

Variables, Measures, and Instrumentation

Two web-based surveys were used to collect data from participants (i.e. students and department heads). The first survey administered to department heads was described in Chapter II of this dissertation. The second survey administered to students was only partially utilized for this study, Chapter III. Only two questions from the second survey, questions 26 and 27, were used for this study and will be discussed in this chapter.

Question 26 was a close-ended question asking “if a student’s current experiences within the department matched the expectations they had when initially recruited,” and respondents were given a “Yes” or “No” option. Question 27 was an open-ended question and only displayed if the student selected “No” in response to question 26. Additional results from this survey were used in study 3, Chapter IV of this dissertation.

Data Collection

Procedures for collecting data from department heads were described in study 1, Chapter II of this dissertation.

Data were collected from students following a similar procedure to that used to collect data from department heads. The student survey tool was developed and then distributed to graduate students in the poultry science department at Mississippi State University to determine face validity. Comments from students were used to revise the survey to improve readability and completeness of survey items/responses.

The Regulatory Compliance Institutional Review Board at Mississippi State University approved research procedures on October 25, 2018 (Appendix A). Immediately following approval, the department head for each poultry science department was sent an email and asked to distribute the email to undergraduate students in his/her respective department via email. A description of the study, informed consent statement (Appendix B), link to the electronic survey (Appendix C), and information about possible incentives for completion of the survey were included in the email to students. This survey was administered in October 2018 using Qualtrics survey software (Qualtrics, Provo, UT).

Reminder emails were sent to students at week one and week two after the initial survey was distributed. Two follow-up email requests were sent as reminders to submit the survey to all students who had not completed the survey after three weeks. After responses were submitted a “Thank you” email and confirmation of participation for possible incentives were sent to the students. Data collection was complete three weeks after the last follow-up email was sent to students.

Data Analysis

Data from both surveys were analyzed using Excel. Student survey analysis began by determining frequencies and percentages of current student satisfaction within each department. Each recruitment method was then compared with each department's overall student numbers, student satisfaction, and graduation rate to determine if relationships existed. Additionally, because student enrollment, recruitment budgets, number of employees recruiting, graduation rate, and student satisfaction are all continuous numeric variables, data pairs for each department were used to determine if statistically significant correlations existed (Steel and Torrie, 1980).

Results and Discussion

The department head survey had a 100% return rate as mentioned in Chapter II of this dissertation. The student survey was sent to all current poultry science students, which totaled 488 students. A total of 183 students completed and submitted the survey, giving a return rate of 37.5%. For each department the return rates were as follows:

- Department 1 had a return rate of 25%, with 28 out of 110 students completing the survey
- Department 2 had a return rate of 84%, with 59 out of 70 students completing the survey
- Department 3 had a return rate of 51%, with 21 out of 41 students completing the survey
- Department 4 had a return rate of 17%, with 28 out of 163 students completing the survey
- Department 5 had a return rate of 92%, with 23 out of 25 students completing the survey
- Department 6 had a return rate of 32%, with 25 out of 79 students completing the survey.

A portion of this survey data was analyzed and used for this study, along with the department head survey. All of this information was utilized to make comparisons between all of the information collected from the department head survey about student recruitment programs and activities with student enrollment numbers and graduation rates to determine if any trends could

be observed in this study. The study also utilized the student survey to determine student satisfaction, so this too could be compared to the recruitment program information.

From the previous study in Chapter II, it was observed that all poultry science departments reported having a recruitment program in place at their respective universities, and all of them reported this recruitment program being in place for over 10 years. However, all but one department reported an increase in the function of the recruitment program since it has operated. The one department who did not report an increase observed no increase nor decrease in the function of the recruitment program. When comparing these data to the enrollment numbers for students, it should be noted that the department who reported no increase nor decrease in their recruitment program, also had the lowest five-year average of enrolled students. Adding to the recruitment program portion, departments were asked whether they had a five-year recruitment plan in place that describes the goals and activities of the department to attract students. Only one department selected the response option of “not having a recruitment plan in place.” When looking at these departments’ student numbers, the department with “No recruitment plan” had fewer students overall, over the course of the last five years than any other department. Noteworthy, this department also had 60% fewer students than the department with the lowest average number of students over five years within those departments “having a recruitment plan.” When averaging all of the departments together that “have a recruitment plan” and comparing them to the one that does not, there were 242% fewer students in the department with “no recruitment plan” (Figure 3.1).

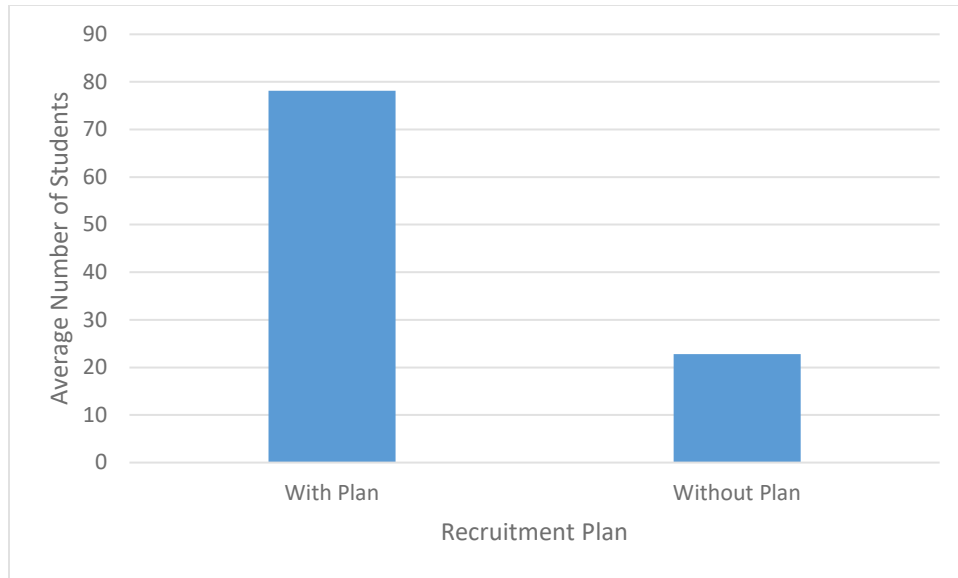


Figure 3.1 Student enrollment for departments with and without a recruitment plan.

“With Plan” is an average of student enrollment from Fall 2014 to Fall 2018 for the five departments notating they have a current recruitment plan in place as of Fall 2018 in place. The “Without Plan” is the average student enrollment from Fall of 2014 to Fall of 2018 for the single department stating they did not have a current recruitment plan in place as of Fall of 2018. The total n=6 poultry science departments.

When comparing general budget spent on recruitment with the average number of students over five-years, no significant correlation was observed ($P=0.3774$, Figure 3.2). Though it is important to note that this budget data lacks information about how the budget was allocated to each recruitment activity. Therefore, even though a significant correlation could not be detected between the general recruitment budget and the number of enrolled students, it is very possible budgeting for specific recruitment activities could certainly be correlated with student enrollment numbers.

However, the survey also addressed whether departments had an increase, decrease, or standing budget over the past five-years. When considering each university budget, 3 of them reported an increase in budget. Of those three, there were increases in students of 21, 27 and

42%, with an overall average increase of 30% for these three departments over the five-year period. There were 2 departments who reported a decrease in budget, and their student numbers had an increase of 8% and 32% over the five-year period, giving an average increase of only 20%. Lastly, there was 1 department that reported a standing budget, with no increase or decrease, which had only a 14% increase in student numbers over five-years. Therefore, the largest percentage increase in student numbers over the course of five-years was observed when the budget was also increased within the five-year period (Fall 2014 to Fall 2018).

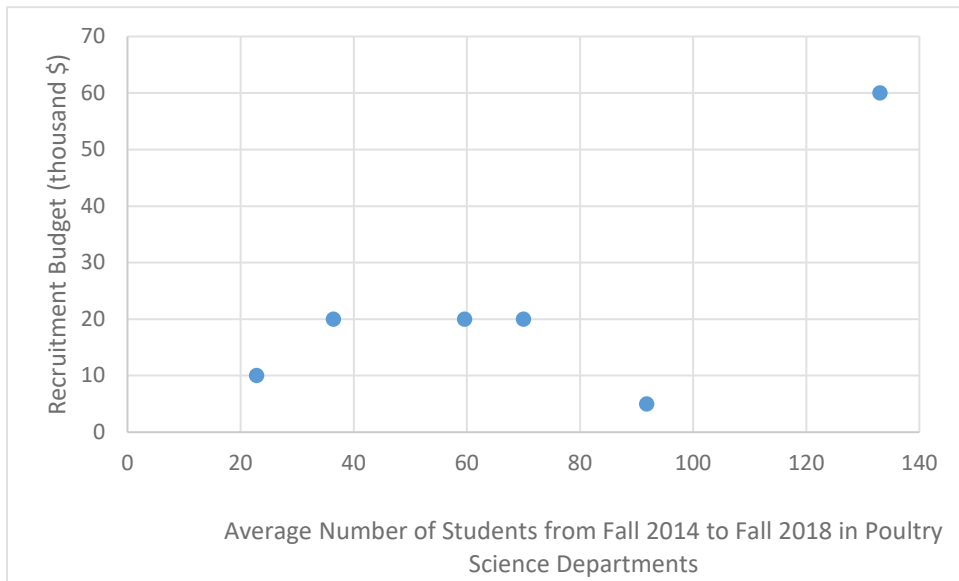


Figure 3.2 General recruitment budget compared to the average number of students for each poultry science department.

Recruitment budgets for Fall 2018 of the poultry science departments (n=6) compared to the overall average number of students for a 5-year period (each for Fall of 2014 to 2018) within each department were found to be not significant (P=0.3774).

When comparing the number of employees spending time on recruitment (FTE) with the average number of students over five-years, no significant correlation was observed (P=0.148,

Figure 3.3). Again, however, it is possible that this lack of a significant correlation was observed

because these employees spending time on recruiting were not always directing their efforts to the most effective recruitment methods.

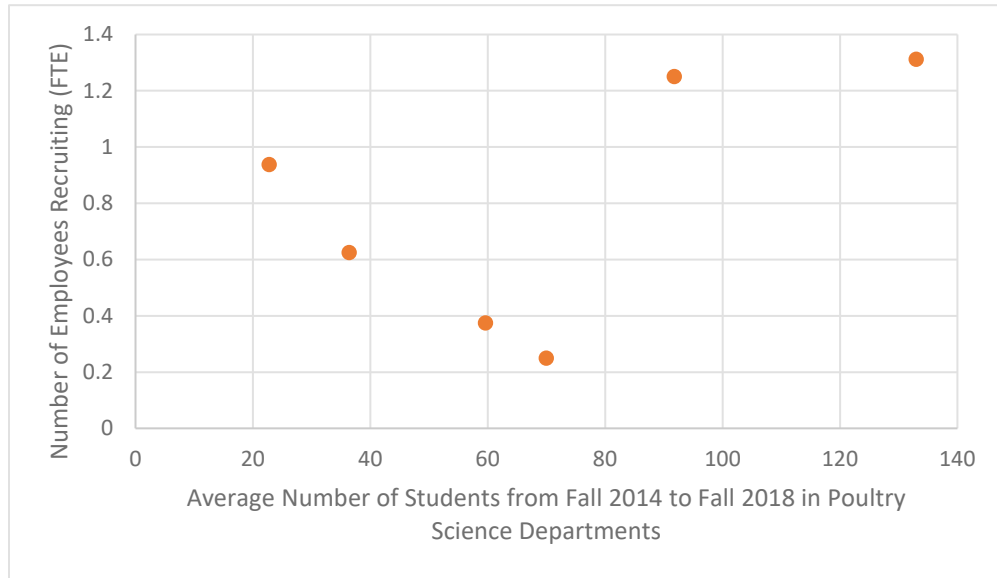


Figure 3.3 Average number of employees recruiting compared to the number of enrolled students in departments of poultry science.

FTE was calculated by the average range score of time spent recruiting given by department heads, multiplied by the number of full-time faculty reported. Average overall student numbers for each of the poultry science departments (n=6) include freshmen, transfer and continuing students for each department over the 5-year period (each Fall of 2014 to 2018). No significant difference was observed (P=0.1482)

In fact, examining how effective the department heads considered each recruitment activity and comparing these activities to student numbers, some very interesting patterns were observed (Table 3.1). For example, when considering the FFA national convention recruiting activity, one department ranked this as “Highly Effective,” and this department had the second highest average enrollment numbers. Additionally, 3 departments ranked this method as “Effective” and one ranked it as “Neutral.” The remaining department ranked this activity as “Not Effective.”

When considering direct mailing, one department ranked this recruitment activity as “Highly Effective,” with 4 ranking it “Effective” and a single department ranking this activity as “Neutral.” Also, for brochures and pamphlets, a single department ranked this activity as “Effective” with 4 others ranking it as “Highly Effective.” The remaining department ranked this activity as “Less Effective.” Again, in hosting 4-H and FFA poultry activities, this single department ranked the activity as “Neutral,” with 4 departments ranking it as “Effective” and the last ranking it as “Highly Effective.” In all four of these cases (FFA national convention, direct mailing, brochures/pamphlets, and hosting 4-H/FFA poultry activities) the single department who ranked these activities as “Less Effective” than all other departments also had the lowest average of students in the five-year period out of all other departments. An article published by Dyer et al. (2002) states that emphasis should be placed on recruitment methods of FFA and 4-H because these students are more likely to complete degrees in agriculture majors. This publication would explain why the department choosing these methods as “Less Effective” has a lower student enrollment than other departments who find them as effective recruitment tools.

College recruitment events were considered “Effective” or “Highly Effective” by 3 universities, with two others considering them “Neutral” and one stating it to be “Not Effective.” Of these departments, the 3 ranking them as “Effective” are in the top four in highest student enrollment; the single university stating these recruitment events as “Not Effective” had the second lowest average student numbers for the five-year period observed. This suggests that college recruitment events have good potential in reaching students who show interest in poultry science and could potentially choose it as their major.

On-campus college fairs were considered “Not Effective” by the majority of departments with 4 out of 6 claiming them to be “Not Effective,” but only one of these four ranking it as “Not

Effective” had not utilized this activity over the past five years. The two remaining departments scored this activity as “Highly Effective,” and it should be noted that these two departments were in the top three for average number of students in the last five-years. Off-campus college fairs were ranked “Not Effective” by only one department. However, it is important to consider that this one department did not utilize it as a recruitment method over the last five years. Three departments ranked this activity as “Neutral” with the remaining two ranking these fairs as “Effective” or “Highly Effective.” These two departments also had the two highest average student numbers for the 5-year period.

For campus visits by prospective students, 3 departments ranked this activity as “Effective,” with the remaining three ranking it “Highly Effective.” These three departments that ranked the activity as “Highly Effective” also exhibited linear growth in student enrollment over the past five years, as shown in Chapter II. In an early study conducted by Pardue (1990), it was determined that the most influential factor in a poultry science students’ decision to major in poultry science was a poultry science faculty member. When these students were asked how they met with this faculty member, approximately 60% spoke face-to-face with a faculty member during a campus visit. This would support the linear increase in enrollment seen in the three departments who feel as though campus visits are “Highly Effective.”

Lastly, for promotional items or handouts, three departments find them “Effective” (4) or “Highly Effective” (5), two departments were “Neutral,” and one department considered them “Not Effective.” The single department that reported this recruitment activity as “Not Effective” also had the second lowest average student numbers over the past five years. Also, the three departments rating this activity as “Effective” (4) or “Highly Effective” (5) are the only departments that show a linear increase in student numbers over the past five years, as shown in

Chapter II. Gammill (2016) states that promotional items may not be one of the most influential recruitment methods for students, but could be a good marketing strategy. They use the analogy that if a consumer is more aware of a product and its brand, then they are more likely to purchase the products. Students may not think these are important, but it could be opening the door to their future department and they do not even realize it is happening.

Also, student satisfaction was compared to the Likert-type scale rank by department heads pertaining to the effectiveness of recruitment activities (Table 3.2). The department with the highest satisfaction rate ranked direct mailing to a prospective student lower than all other departments, and brochures and pamphlets as “Less Effective” (2) while all other departments ranked them as “Effective” (4) or “Highly Effective” (5). Lastly, the same department with the highest satisfaction rate also ranked FFA National convention as “Not Effective” (1) with one department ranking it as “Neutral” (3), three departments as “Effective” (4) and one department as “Highly Effective” (5). This suggests that these recruitment activities are not being utilized fully by the department with the highest satisfaction rate but are by other departments.

Therefore, it is possible that these methods of recruitment target the wrong students. It could also be possible that through direct mailing and brochures/pamphlets, the information is too general for students to truly understand the department they are choosing. Perhaps this means that once within the department, these students become less satisfied with their decision.

The graduation rate for each department was also compared to a Likert-type scale ranking for each recruitment activity used by the department (Figure 3.4). These data demonstrate that visits to high schools were ranked lower by 2 departments who also had the lowest two graduation rates. Additionally, off-campus college fairs were ranked the lowest by the department who ranks lowest in graduation rate. These findings may illustrate that departments

not utilizing visits to high schools or participating in off-campus college fairs are not targeting the correct populations, and therefore losing their students before they graduate. If a higher graduation rate is observed from departments that use certain recruitment activities, there is the potential that those activities are targeting students that should major in poultry science and therefore they stay and graduate. Whereas those departments not utilizing appropriate recruitment activities, such as visits to high schools and off-campus college fairs are missing a target population that they should be obtaining. It should also be noted that Cole and Fanno (1999) found that students who had a background in 4-H and FFA were less likely to leave the major of agriculture than students who had no background in these activities. Also, Ball et al. (2001) determined that retention was higher amongst students with a background in 4-H and FFA. This further supports why poultry departments in the current study who are utilizing and regard FFA and 4-H related recruiting activities as “Effective” also have higher satisfaction rates which could lead to higher graduation rates.

Table 3.1 Department head Likert-type scale score of recruitment activity effectiveness and average number of students enrolled for each department.

Department	5-year Average of Student Numbers	Department head Likert-type scale scores								
		Direct mailing	Hosting 4-H and FFA etc.	Brochures and pamphlets	College recruitment events	On campus college fairs	Off campus college fairs	Promotional items or handouts	Campus visits by prospective students	FFA National Convention
1	92	5	5	5	5	5	5	5	5	5
2	60	4	4	4	4	2	3	4	5	4
3	36	4	5	4	1	1	3	2	4	3
4	133	4	5	4	3	2	4	3	4	4
5 ¹	23	3	3	2	3	1	3	3	4	1
6	70	4	4	4	5	5	1	4	5	4
Average Likert-type Scale		4.0	4.3	4.3	3.5	3.0	3.6	3.5	4.5	3.8

¹The highlighted row is the department with the lowest average number of enrolled students for the five-year period. The 5-year average consists of the average enrollment obtained from fall 2014 to Fall 2018. The chart illustrates the Likert-type rank for all poultry science departments (n=6) as well as the average Likert-type scale for each recruitment activity for each department.

Table 3.2 Department head Likert-type scale score of recruitment activity effectiveness and average percentage of students that are satisfied with their college major choice for each department.

Department	Student Satisfaction	Department Head Likert-type Scale Scores		
	%	Pamphlets/Brochures	Direct Mailing	FFA National Convention
1	81	5	5	5
2	78	4	4	4
3	86	4	4	3
4	85	4	4	4
5	95	2	3	1
6	92	4	4	4

The chart illustrates the student satisfaction rate as a percentage for Fall 2018, as well as the poultry science departments (n=6) and their Likert-type scale rank for three of the recruitment activities listed in the survey tool.

Table 3.3 Overall department head Likert-type scale average for recruiting method effectiveness, average number of students, graduation rate and student satisfaction for each poultry science department.

Department	Average Overall Likert-type Scale Score	Average Number of Students	Graduation Rate (%)	Student Satisfaction (%)
1	5	92	80	81
2	3.2	60	50	78
3	3.1	36	100	86
4	3.1	133	93	85
5	2.4	23	60	95
6	3.2	70	37.5	92

The poultry science departments (n=6) are listed with their average overall Likert-type scale score obtained from the average of the ranks reported for each recruitment activity. The overall average number of students represents each department's 5-year (Fall 2014-Fall 2018) overall enrollment, which includes freshmen, transfer, and continuing students. Graduation rate percentage was calculated from the 2012 cohort of students who graduated within 6 years (August 30, 2018). Student satisfaction is the percentage of students (n=183) who were satisfied with their choice in a department, as of Fall 2018.

Table 3.3 lists the department head Likert-type score average overall, recruiting activities, the average number of enrolled students over a 5-year period, the graduation rate and student satisfaction for each poultry science department. The department with the lowest overall Likert-type scale average for perceived effectiveness of recruitment activities had the smallest number of students but the greatest student satisfaction. Also, the department with the highest graduation rate had the second lowest average number of students and the second lowest overall Likert-type scale average as well. This could be due to the fact that students who attend universities when they were not actively recruited were going to attend that department and major anyway. Therefore, they are more satisfied simply because they had already chosen and made a decision of attending that university, and they were not persuaded into a decision through recruitment

practices that they did not actually want to do. Additionally, Table 3.1 shows the department with the fewest students enrolled is also the department with the highest graduation rate and the department who did not have many recruitment activities perceived effective by the department head. This could be because when recruiting larger groups of students, more activities are utilized, and more students are attracted to the major who may not be the right fit. These students may be more likely to change their major or leave.

The figures below (Figure 3.4, Figure 3.5, Figure 3.6, and Figure 3.7) illustrate the relationships of recruitment budget and the number of employees recruiting with graduation rate and student satisfaction for each department. However, no statistically significant correlations were observed ($P>0.05$).

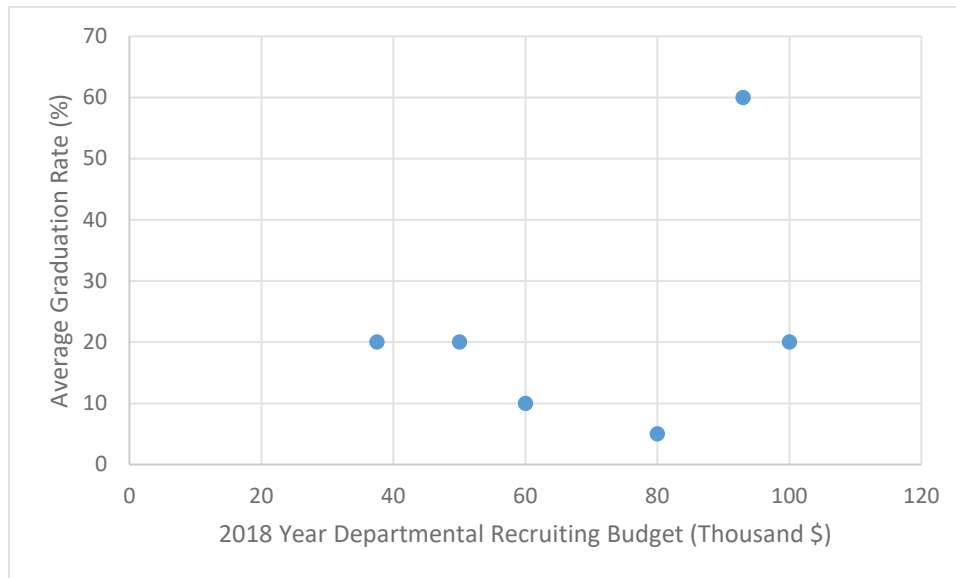


Figure 3.4 2018 recruitment budget and average graduation rate for each U.S. poultry science departmental pair. No statistically significant correlation was observed.

The yearly recruitment budget was for the current year of 2018 and the average graduation rate was calculated for the Fall 2012 cohort of students who graduated within a six-year period (August 30, 2018). The budget was for Fall of 2018 and is represented for all poultry science departments ($n=6$). No significant difference was observed ($P=0.4833$).

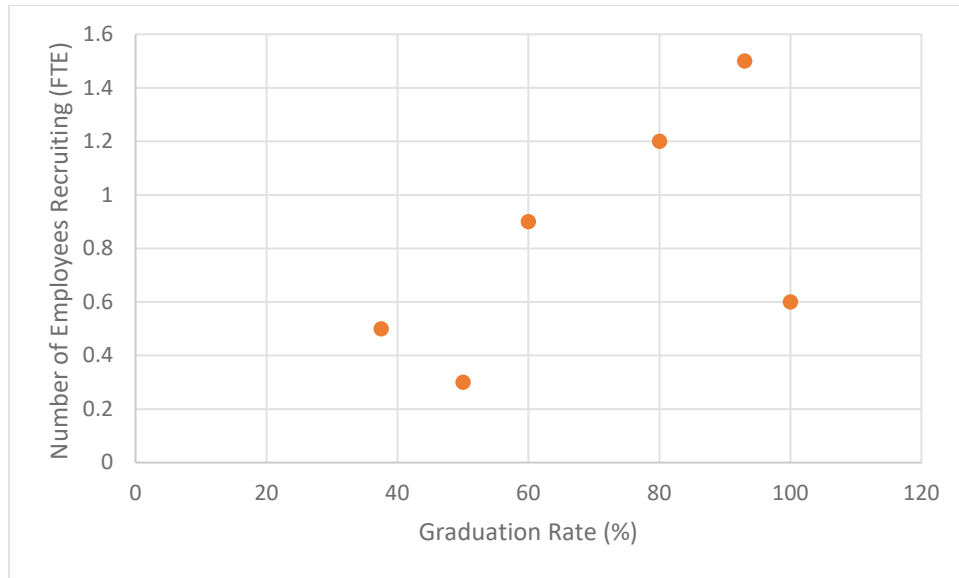


Figure 3.5 Number of employees recruiting compared to graduation rate. No statistically significant correlation was observed.

The number of employees recruiting (FTE) was calculated by the average range score of time spent recruiting given by department heads, multiplied by the number of full-time faculty reported. Average graduation rate for each of the poultry science departments (n=6) were calculated from the 2012 cohort and are those students who graduated with a 6-year period (August 30, 2018). No significant difference was observed (P=0.2261)

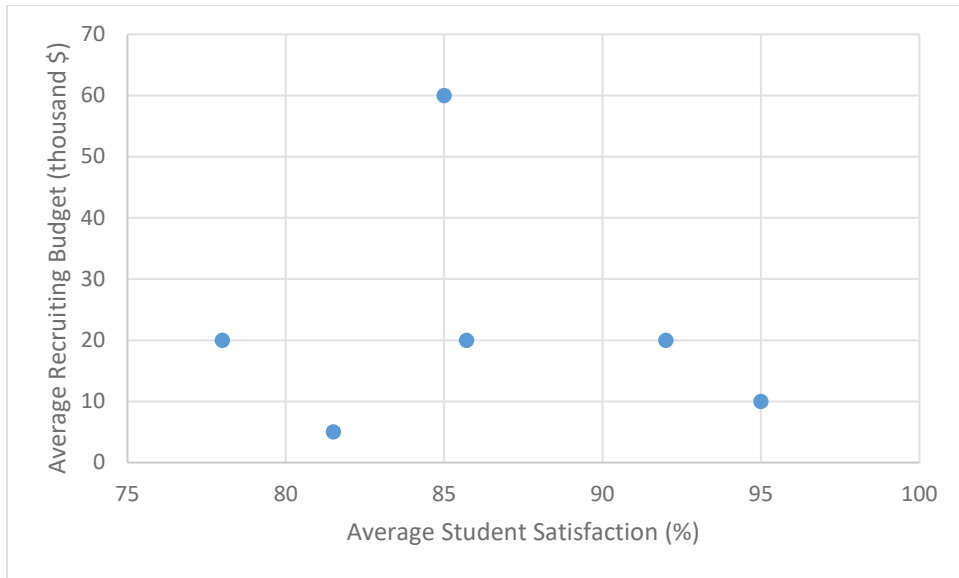


Figure 3.6 Average student satisfaction compared to 2018 recruiting budget for each U.S. poultry science department. No statistically significant correlation was observed.

The average recruiting budgets were those budgets reported for Fall 2018 for each of the poultry science departments (n=6) with the average student satisfaction being for each department's students (total number of students n=183) as of Fall 2018.

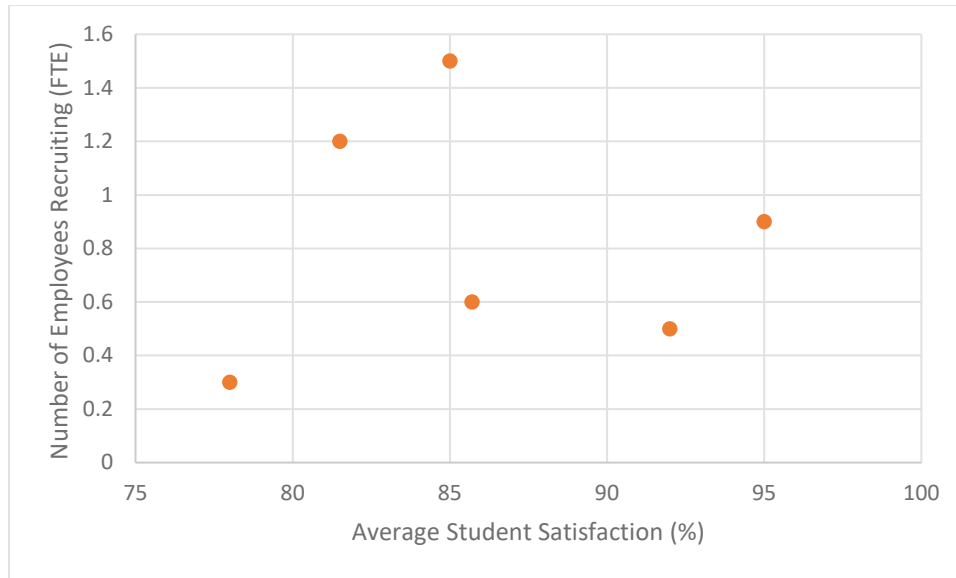


Figure 3.7 Average student satisfaction and number of employees recruiting (FTE) for each U.S. poultry science department. No statistically significant correlation was observed.

The number of employees recruiting (FTE) was calculated by the average range score of time spent recruiting given by department heads, multiplied by the number of full-time faculty reported for each of the poultry science departments (n=6), with the average student satisfaction being for each department's students (total number of students n=183) as of Fall 2018.

Due to no significant correlations being observed, the general recruiting budget and the number of employees recruiting appear to have no effect on student satisfaction, or graduation rate. Though, it is possible that no relationship was observed because the amount of general recruiting budget and the overall number of employees recruiting do not affect these student values. However, how the budget and time are specifically utilized for different recruiting activities may directly alter satisfaction and/or graduation rate.

With all of the observed data in this study, it is apparent that there are differences among departments with regards to recruitment practices and characteristics of recruitment programs, as well as their opinions of which recruitment activities are effective. Even though significant correlations were not observed, it does appear that student enrollment counts for each department

are related to recruitment methods and their perceived effectiveness. It was apparent that some recruitment methods that were “passed off” as “Not Effective” or “Less Effective” by some departments, such as FFA national convention, direct mailing, brochures/pamphlets and hosting 4-H/FFA poultry activities should be implemented because of the high enrollment numbers observed by departments utilizing these activities. Also, the data seems to demonstrate that recruitment practices could potentially be targeting the wrong populations in some instances and may be persuading students to choose poultry science as a major when these students truly should not be within the department. For example, pamphlets/brochures and direct mailings were ranked lower by the department who had the highest graduation rate. Again, overall, these data illustrated that the general recruiting budget and number of employees spending time recruiting had no correlation with enrollment numbers of students. This could also suggest that money and time should be allocated differently and are not always directed to the right areas of recruitment. Ultimately, more data are needed to make conclusive statements in any of these areas; however, the compilation of these data marks the beginning of determining the best recruitment methods to be utilized by poultry science departments.

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CHAPTER IV
INTERNAL AND EXTERNAL FACTORS INFLUENCING POULTRY SCIENCE STUDENT
COLLEGE CHOICE

Abstract

The model of student college choice conducted by David Chapman (1981) is a behavioral theory that identifies internal and external factors that influence a student's choices in college selection. Many authors have used the Chapman model to explore factors that influence a student's selection of a major in agriculture and life science. However, only one published study has evaluated factors of influence in student choice to major in poultry science (Pardue, 1990). Therefore, there is a need for a more current exploration of the factors that influence a student's choice to major in poultry science. In the current study, a survey method was utilized to collect data from poultry science majors nationwide, detailing the most influential factors in their selection of major. These data were also compared to results obtained in Chapter II pertaining to what poultry department heads perceive to be effective methods of recruitment in poultry science. The data revealed that conversations with a poultry faculty member or department representative and on-campus activities (i.e. FFA, 4-H, etc.) were the most influential in efforts to communicate. Fixed college factors that were most influential were cost, scholarships, employment opportunities, and preparation for future employment. Furthermore, the most "influential significant persons" were high school agriculture teachers and parents. It was also determined that some current recruitment practices that were favored by students were also

viewed as “Highly Effective” by department heads; however, department heads and students did not seem to agree on usefulness of some recruitment methods. These results will hopefully be utilized to develop effective recruitment practices based upon factors of influence on poultry science students’ choice of major.

Introduction

Choosing a college and major are important decisions for young adults who are beginning to look at their future. Decisions on what a student’s ultimate goal is and what path will get them to that point are crucial leading up to college. Ideally, universities use research findings to determine valuable recruitment methods that will attract students to certain colleges and majors. These recruitment efforts should be based, in part, upon the factors that affect a student’s college choice. Departments with low student enrollment, such as poultry science, have an even higher demand for this research in order to improve recruitment and ultimately, increase student population. If poultry science departments can determine what influences the decision of a student to major in poultry science, recruitment efforts can be modified in order to appeal to the students’ influence areas.

Many researchers have explored the reasons that undergraduate students select academic programs and the factors that impact these decisions (Wildman and Torres, 2001; Porter and Umbach, 2006; Rayfield et al., 2013; Chapman, 1981; Herren et al., 2011; Barkley and Parrish, 2005; and Thielen, 2012). More specifically, the model of student college choice conducted by David Chapman (1981) is a behavioral theory that identifies internal and external factors that influence a student’s choices in college selection. In brief, Chapman (1981) found that a student’s choice is first influenced by their background and other internal factors, such as their level of educational aspiration and current high school performance. Secondly, choices are

influenced by external factors that include significant persons, characteristics of the college (cost, availability of programs, and location), and the efforts of the college to communicate with students. Many authors have used the Chapman model to explore factors that influence a student's selection of a major in agriculture and life science. However, only one published study has evaluated factors of influence on student choice to major in poultry science (Pardue, 1990). Using a survey, Pardue (1990) concluded that over half of poultry science students at a single university were from an agricultural background with half of these students participating in FFA or 4-H. Also, the greatest external factor that influenced student choice to major in poultry science was poultry science faculty at the university (Pardue, 1990). However, the research findings of Pardue (1990) are from over 30 years ago, and no modern research is available discussing the above-mentioned factors or other internal or external factors that may be related to student choice to major in poultry science.

With only six degree-granting poultry science departments remaining, it is crucial for these departments to maintain and grow student enrollment. These departments serve an industry that is the world's largest poultry producer, as well as the second largest exporter of poultry (USDA, 2018). Therefore, it is vital to understand student choice and influences in selecting a major so that current recruitment practices, as well as newly developed recruitment programs, can effectively recruit students into these poultry degree-granting universities that prepare students to begin careers within the industry.

Purpose of Study

The purpose of this third study in this dissertation was to determine internal and external factors influencing current undergraduate poultry science students to pursue a major in poultry science. Using Chapman's model as a theoretical perspective, the study will document which

factors from the model relate to a student choosing to major in poultry science. In brief, factors from the model that will be explored include external factors such as “significant persons” “characteristics” and “efforts to communicate by the university.” As well as internal factors which consist of: “level of educational aspiration”, “socioeconomic status,” “aptitude” and “performance while attending high school.” Ultimately, this should allow universities to gain an understanding of what influences a student’s decision to major in poultry science and in turn, help them to modify their recruitment methods in order to be more effective.

The following questions will guide this study:

- **What factors influence undergraduate poultry science students’ selection of college choice?**
- **Do poultry science department perceptions of recruiting activities mirror those of the students’ preferred recruitment methods?**

Methods

Survey methodologies were used to determine the factors that influence undergraduate poultry science student choice of college major within the U.S. Survey methods were also utilized to determine the department heads’ recruitment efforts and opinions of their effectiveness.

Population

The population of this study consisted of students currently enrolled in any of the six degree-granting poultry science departments, as of Fall 2018. The six degree-granting poultry science departments are: Auburn University, Mississippi State University, North Carolina State University, Texas A&M University, University of Arkansas, and University of Georgia.

Therefore, the population was any full-time poultry science undergraduate student located in the U.S., ranging in class rank from freshman to senior as of Fall 2018, and could be male or female of any age. Additionally, department heads from each of the six degree-granting poultry science department in the U.S. were also included in the population.

Variables, Measures, and Instrumentation

Two web-based surveys were used to collect data from participants (i.e., students and department heads). The survey administered to department heads is described in Chapter II of this dissertation. Only Question 16 of the department head survey was utilized in this study. Data from the survey administered to students was partially used in Chapter III (Questions 26 and 27), however the remaining questions were used for the current study. The survey began with an opening statement informing students to answer questions to the best of their ability followed by Question 2 being a consent to participate (“Yes or No”).

External Factors

Efforts to Communicate

Pertaining to the student survey, Questions 3-7 were related to recruitment efforts. The external factors in Chapman’s model of efforts to communicate by the university and their influence on student choice were identified with these questions. Questions 3-6 listed categories of efforts to communicate including conversations, letters, general, and on-campus. Students then ranked the options in each category in order from “Most Favorable” to “Least Favorable”. Question 7 asked the students to identify a single method within Questions 3-6 that was the primary factor when making their college choice.

Fixed College Characteristics

Questions 8-11 identified the influence on student choice of external factors of fixed college characteristics. Questions 8-10 listed categories of fixed college characteristics including cost and facilities, personnel and preparation, and organizations and activities. Students then ranked options in each category in order from “Most Favorable” to “Least Favorable.” Question 11 required students to identify a single method within Questions 8 to 10 that was the primary factor when making their college choice.

Influence of Significant Person

Questions 12-13 identified the influence of a significant person when the student made their college choice. Question 12 asked students to rank the significant persons listed in order from most favorable to least favorable. Question 13 was an open-ended question asking the student to specifically identify an individual who had the largest impact on their college choice.

Internal Factors

Background Information

Question 14 was a close-ended question and asked students to identify what university they currently attended. Students were asked to choose one of the six poultry science departments listed. Question 15 was also close-ended and asked the student’s grade level classification of either freshman, sophomore, junior or senior.

Socioeconomics and Level of Aspiration/Aptitude

Questions 16-23 were questions to determine the demographics of the student with Question 16 being open-ended for the student to label their GPA and ACT score from high school as well as their current GPA in college as of Fall 2018. Question 17 had close-ended

response options asking the student to list the highest degree they plan to achieve. Question 18 pertained to whether they were a first-generation college student, with a “Yes or No” response option. Question 19 was to determine yearly household income with close-ended response options, representing a range of income. Questions 20-23 determined the student’s background in agriculture and agriculture-related youth activities with Questions 20 and 22 being close-ended response options of “Yes or No”; and 21 and 23 only being viewable by those students who answered with “Yes” in Questions 20 and 22. These questions (21 and 23) were close-ended response options to determine if a student’s background or participation in agriculture youth activities pertained to poultry.

College Selection

Questions 24-25 determined if a student considered other universities before selecting their current one, with 24 being multiple choice, close-ended response options and 25 being open-ended to allow the student to explain what changed their mind. Students were only given Question 25 if they selected “Yes” on 24.

The remaining two questions in this survey did not pertain to the research in the present study but were analyzed in Chapter III of this dissertation to determine student satisfaction.

Data Collection

Validation of the two surveys utilized in this study are discussed in Chapters II and III. After obtaining approval through the Regulatory Compliance Institutional Review Board on October 25, 2018 to collect the above data, the developed survey was administered online using Qualtrics (Qualtrics, Provo, UT) and emailed to all of the population through their campus email addresses as stated in Chapters II and III of this dissertation. All collection of survey material

and methods utilized can be observed in Chapters II and III. The student survey was administered to all students in the population in late October of 2018, being shortly past the mid-term portion of the fall semester. The reason for this date was that students would be acclimated to college, especially those in their freshman year, but it would also be past the date to drop a course. Students may also be more likely to be more willing to participate in a survey during this time, as it was past the mid-term grade point in the semester, but not too close to final examination dates.

Data Analysis

With the collection of the completed surveys from Qualtrics (Qualtrics, Provo, UT), data were entered in an Excel spreadsheet, and frequencies and percentages of recruitment processes, college characteristics, influencing persons, and student demographics were obtained. The survey from Chapter II was also utilized to collect information of the preferred recruitment methods of department heads, in order to compare these findings with the student survey data.

Results and Discussion

External Factors

Efforts to Communicate

The data from this study were collected to determine internal and external factors affecting student's choice to major in poultry science. Of the total population (488) of poultry science students, 183 students participated in the study and completed the online survey giving a response rate of 37.5%. Efforts to communicate were presented as four different questions. In Figure 4.1, conversations with a poultry faculty member, with a poultry department representative and with a college recruiter were ranked by all students. The results show that

“conversation with a poultry faculty member” was ranked first by 41.5% of poultry science students. For “mailed information”, students ranked the factor of “information mailed by a poultry department representative” first, 39.9% of the time over “mailed information from a poultry department faculty member” or “college recruiter” (Figure 4.2). In Figure 4.3 student primary choice for poultry department information was “websites” 29.5% of the time, with “campus tours” being second at 23%. Lastly, student primary choice for efforts to communicate in on-campus events was “4-H and FFA activities” more than half of the time (55.7%, Figure 4.4). The last question in efforts to communicate was a grouping of all 4 previous questions, where students were asked to select their top choice of efforts to communicate. “Conversations with a poultry faculty member,” “conversation with a department representative” and “on-campus student activities such a 4-H and FFA” were the top three primary choices chosen by 100 of the 183 participants of the survey (54.6%, Figure 4.5). Twenty-two percent of students selected “conversation with a poultry faculty member,” 20% chose “conversation with a poultry department representative,” and 18% chose “participation in an on-campus recruitment event,” totaling 60% of the population with just these three choices. Also, the choice of “TV, radio, newspaper or magazine advertisement,” as well as “letter and/or information mailed from a college recruiter” were not selected as the most important factor by any of the students who completed the survey (n=183). It is apparent that verbal communication is the most favorable recruitment method for poultry science students. This is similar to previous data collected by Pardue (1990) who concluded poultry science faculty to be the most influential factor of choosing to major in poultry science by students with 75% of these students verbally communicating with that faculty member to make their decision. When considering Figure 4.5 which lists all efforts to communicate, 53.6% of all poultry science students selected a verbal

means to communicate over other methods to communicate. Also, 26.7% of students preferred some form of a campus visit or participation in an on-campus event. Herren (2011) concluded these similar findings in the college of agriculture students; however, campus visits were the most influential in that study, whereas they were second in current poultry science students. Twelve percent preferred online options such as websites or social media, with the remaining 7.6% choosing paper items, such as mailings and brochures. Overall this illustrates that recruitment efforts should primarily be face-to-face communication with poultry science students as an effective recruitment method. Additionally, these data suggest that fewer resources/time should be spent on paper items or websites and media as a means of connecting with and recruiting students. However, it should be noted that even though some recruiting methods were selected less frequently, they were still selected by some students as their preferred method of recruitment. In fact, all of these smaller percentages totaled 40% of the population being surveyed. Therefore, even though perhaps fewer resources should be spent on these activities, they should still be used in order to reach the entire population of potential poultry science students.

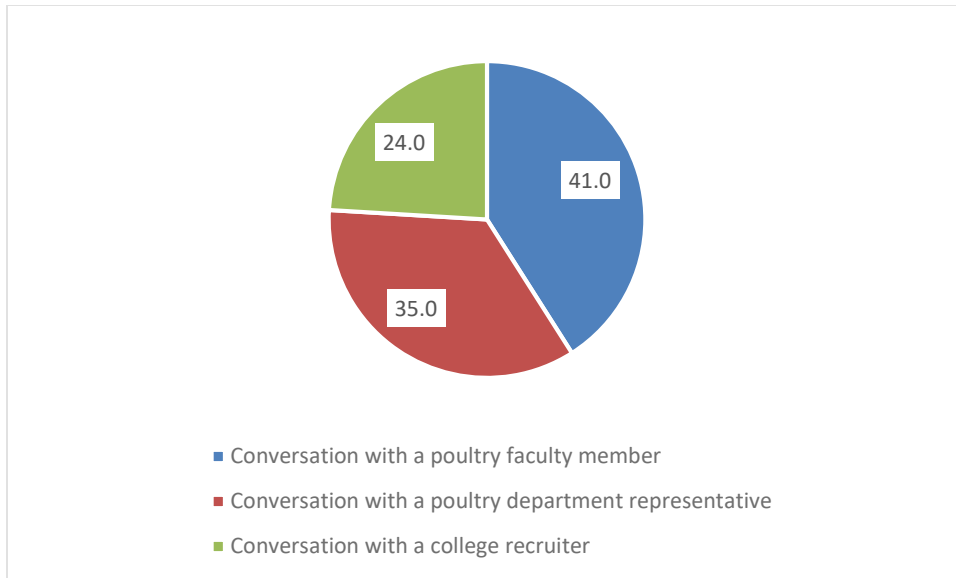


Figure 4.1 Poultry science student’s primary choice (%) in efforts to communicate: Conversations.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the three choices given above of efforts to communicate in order from “most favorable” to “least favorable.”

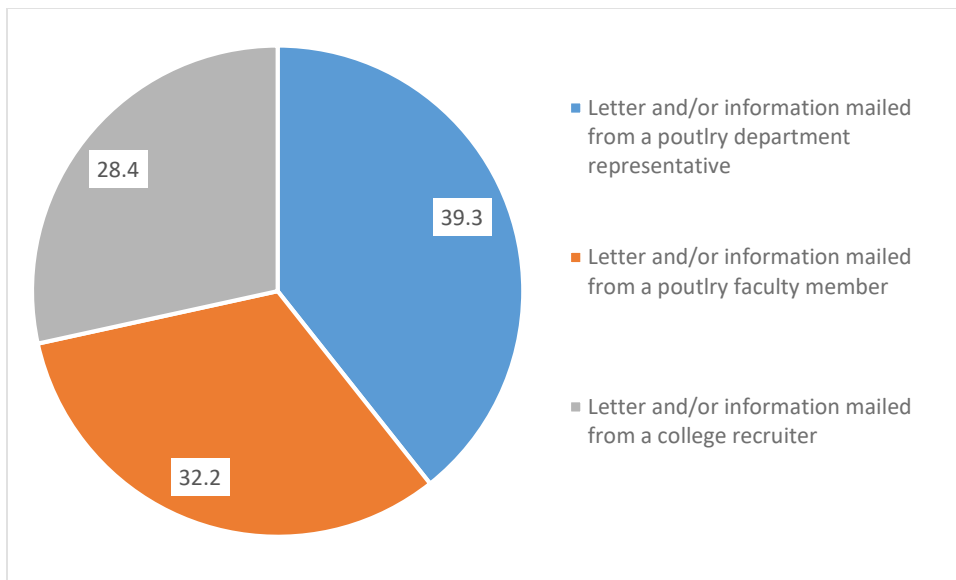


Figure 4.2 Poultry science student’s primary choice (%) in efforts to communicate: Letters.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the three choices given above of efforts to communicate in order from “most favorable” to “least favorable.”

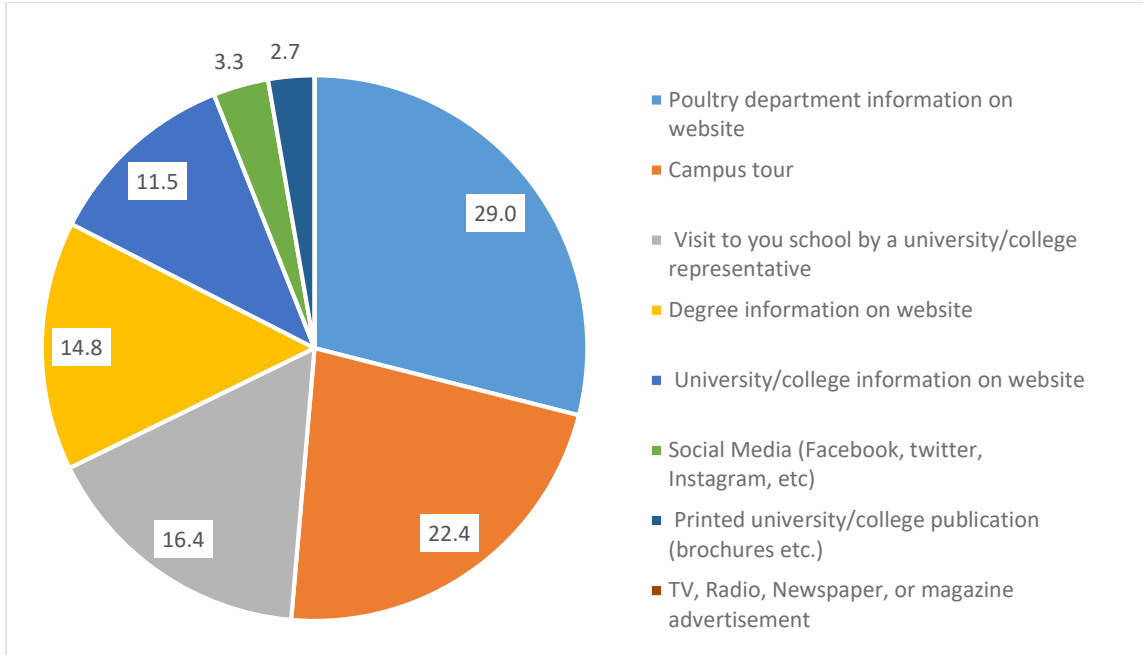


Figure 4.3 Poultry science student’s primary choice (%) in efforts to communicate: General.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the eight choices given above of efforts to communicate in order from “most favorable” to “least favorable.” TV, Radio, Newspaper, or magazine advertisement was not chosen by any student therefore it is not illustrated in the graph.

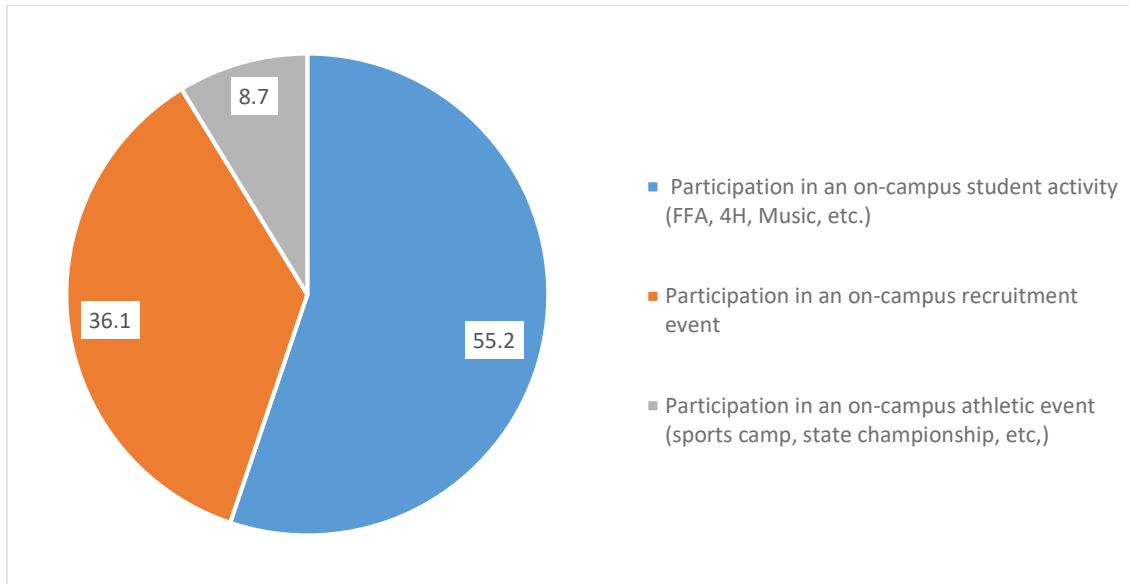


Figure 4.4 Poultry science student’s primary choice (%) in efforts to communicate: On-campus.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the three choices given above of efforts to communicate in order from “most favorable” to “least favorable”.

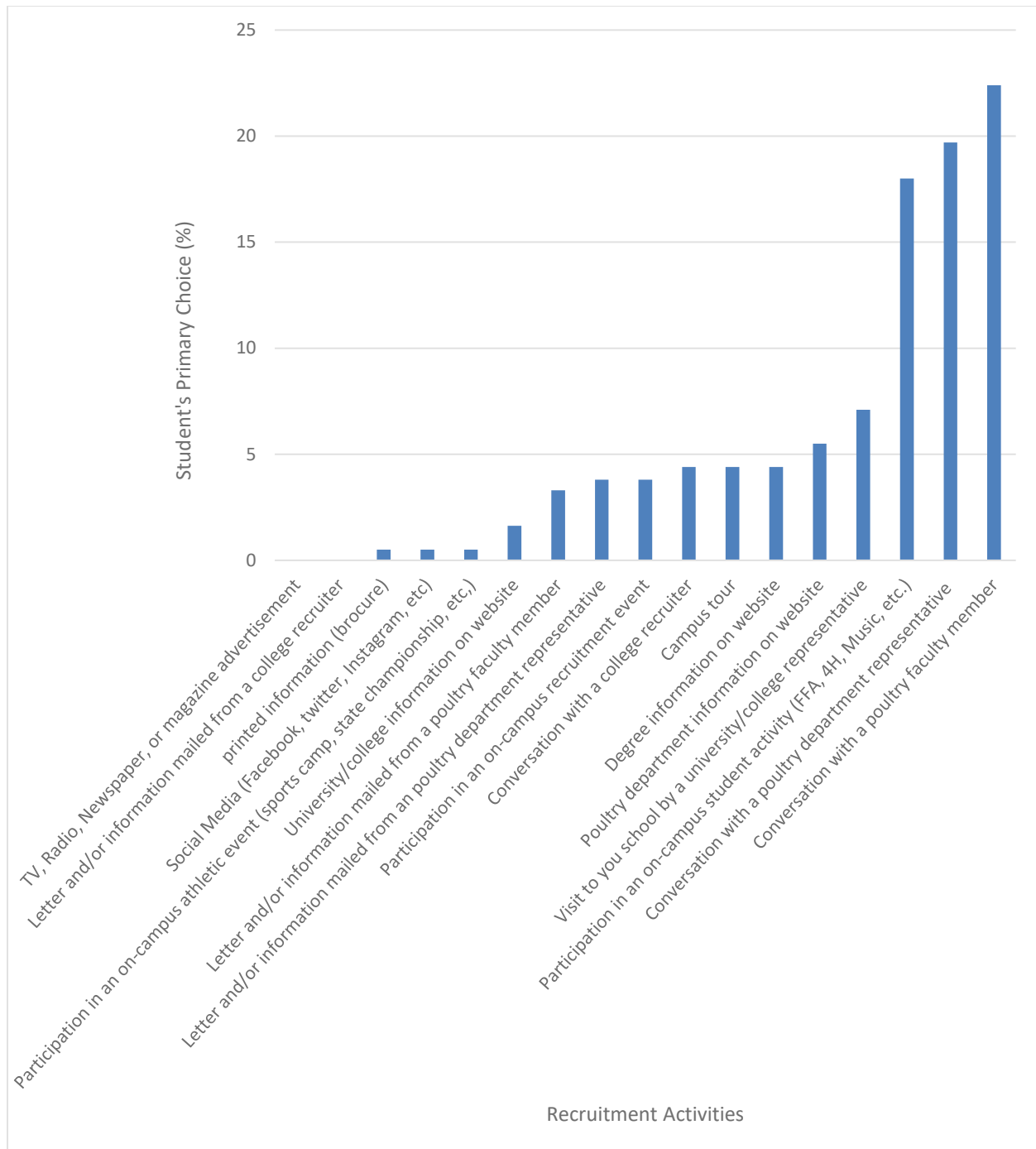


Figure 4.5 Poultry science student’s primary choice (%) in efforts to communicate: Overall.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to select a single recruitment activity as their “most favorable” activity from the selection. Values are illustrated as percentages.

Fixed College Characteristics

When analyzing fixed college characteristics, three questions were provided to examine the 3 categories of fixed college characteristics, with a fourth question providing all options displayed in the first three questions to allow students to choose the “single most important item for these fixed college characteristics.” In Figure 4.6, students ranked “scholarships awarded” number 1, 29.5% of the time with “cost (tuition, room, and board)” being the next choice chosen 19.1%. This illustrates the importance of money and paying for college to today’s poultry science students. In the second figure (Figure 4.7), almost half of all students (40.6%) ranked “opportunities after graduation” as the primary factor affecting their choice of major. This is in agreement with Pescatore, (1988) who mentions that emphasizing employment opportunities is an asset to recruitment within poultry science. In a study conducted by Stair et al. (2016), it was determined that ‘job markets’ and “income” were the most influential factors in regard to the consideration of major by agriculture students. The high ranking of job opportunities observed in the current study was expected, as the poultry science departments in the nation are unable to supply enough graduates to meet industry demands (Armstrong, 2015). Thus, departments have the ability to offer 100% job placement upon graduation (Mississippi State University, 2019; Scott, 2017; University of Arkansas, N.D.; Nobles, 2016), which is appealing to current/potential poultry science majors and thus, likely a reason that almost half of those completing the survey chose this as an influencing factor.

In Figure 4.8, “student organizations” were ranked as a primary factor 39.3% of the time by respondents. “Student organizations,” along with the second highest ranking factor “agricultural competitive team”, accounts for over half of the population of students. A study conducted by Foreman and Retallick (2012) determined that of the college students they

surveyed, 96% stated they were involved in some type of extracurricular activity. This, along with findings from the current study, indicates the desire for students to be involved with their major when selecting their major. However, when students were given all of these aforementioned fixed college characteristic options and had to choose the single most important factor (Figure 4.9), “cost,” “scholarships awarded,” “preparation for employment” and “opportunities after graduation” were selected by 78% of students as their top choices overall. With over 3/4 of the population choosing these as the most influential fixed college factor, the extreme importance of recruitment practices encompassing scholarship money, as well as providing students with information about job opportunities in the industry is apparent. Chapman (1981) determined that cost is frequently an important factor in the process of college choice amongst all students.

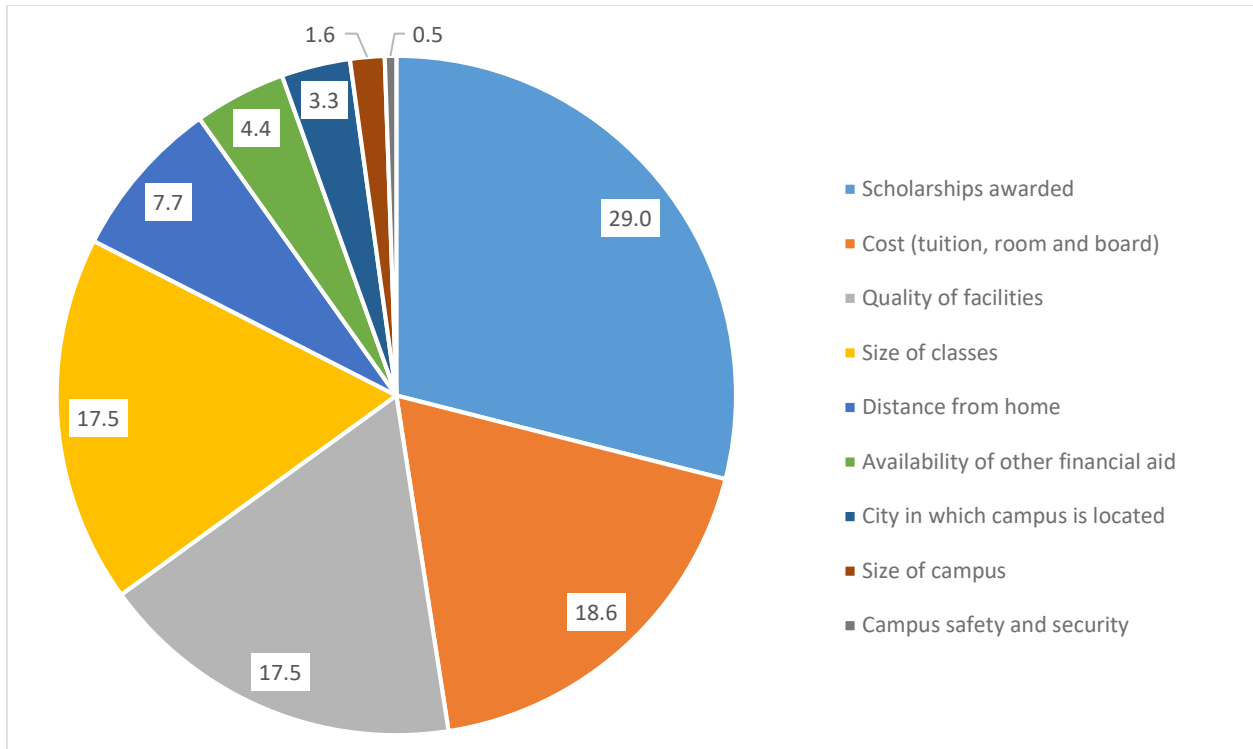


Figure 4.6 Poultry science student’s primary choice (%) in fixed college characteristics: Cost and Facilities.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the nine choices given above of fixed college characteristics in order from “most favorable” to “least favorable.”

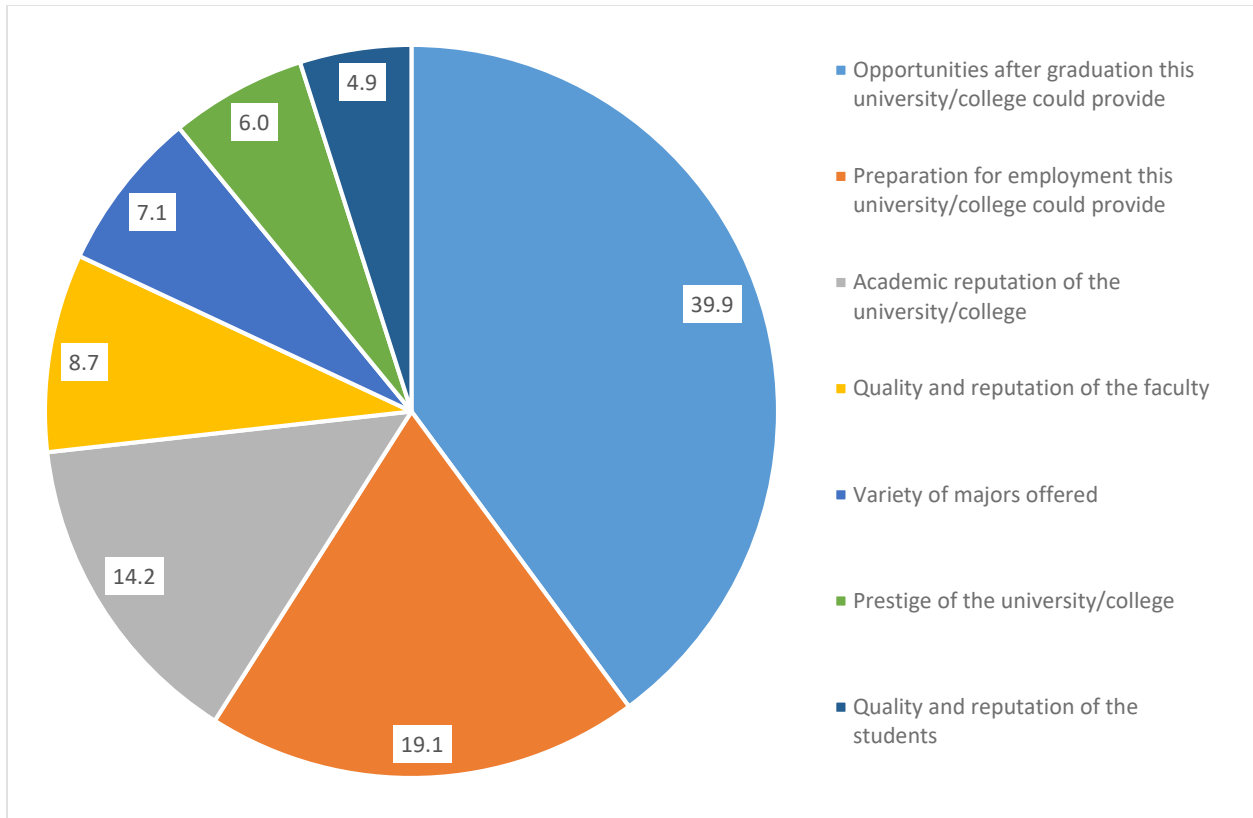


Figure 4.7 Poultry science student’s primary choice (%) in fixed college characteristics: Personnel and Preparation.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the seven choices given above of fixed college characteristics in order from “most favorable” to “least favorable.”

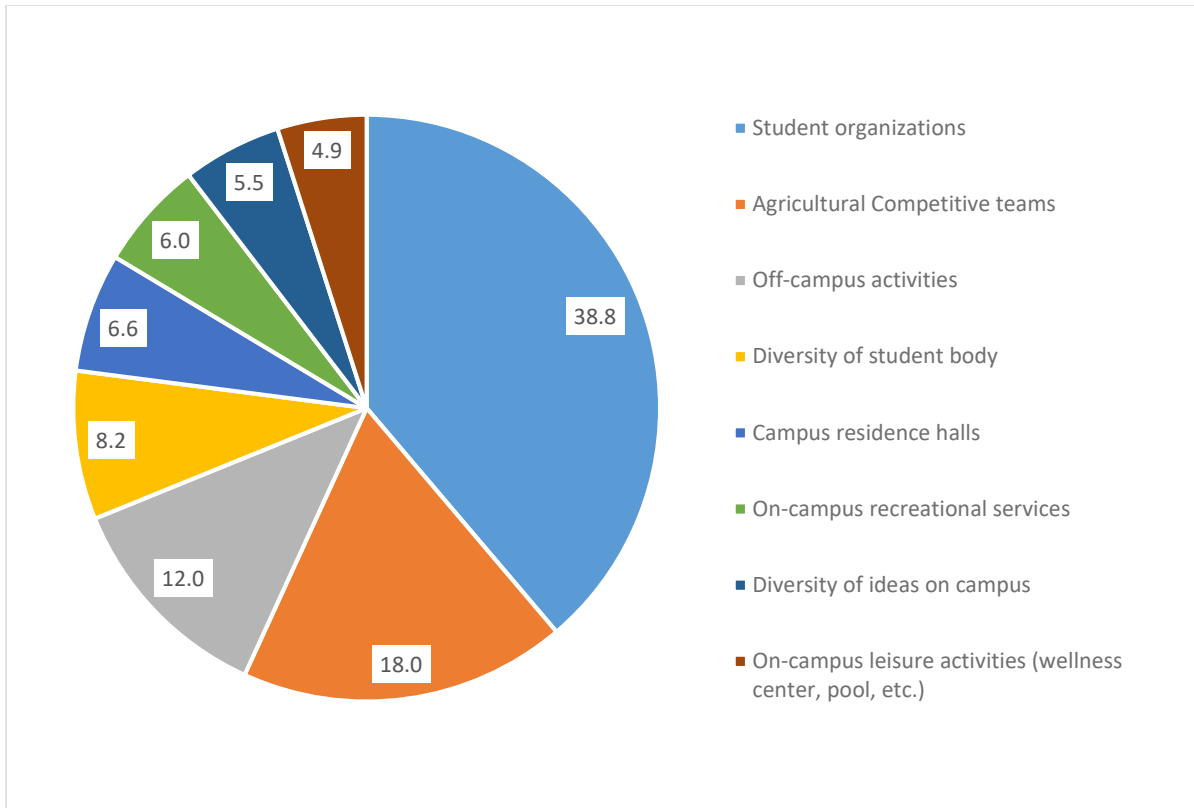


Figure 4.8 Poultry science student’s primary choice (%) in fixed college characteristics: Organizations and Activities.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the eight choices given above of fixed college characteristics in order from “most favorable” to “least favorable.”

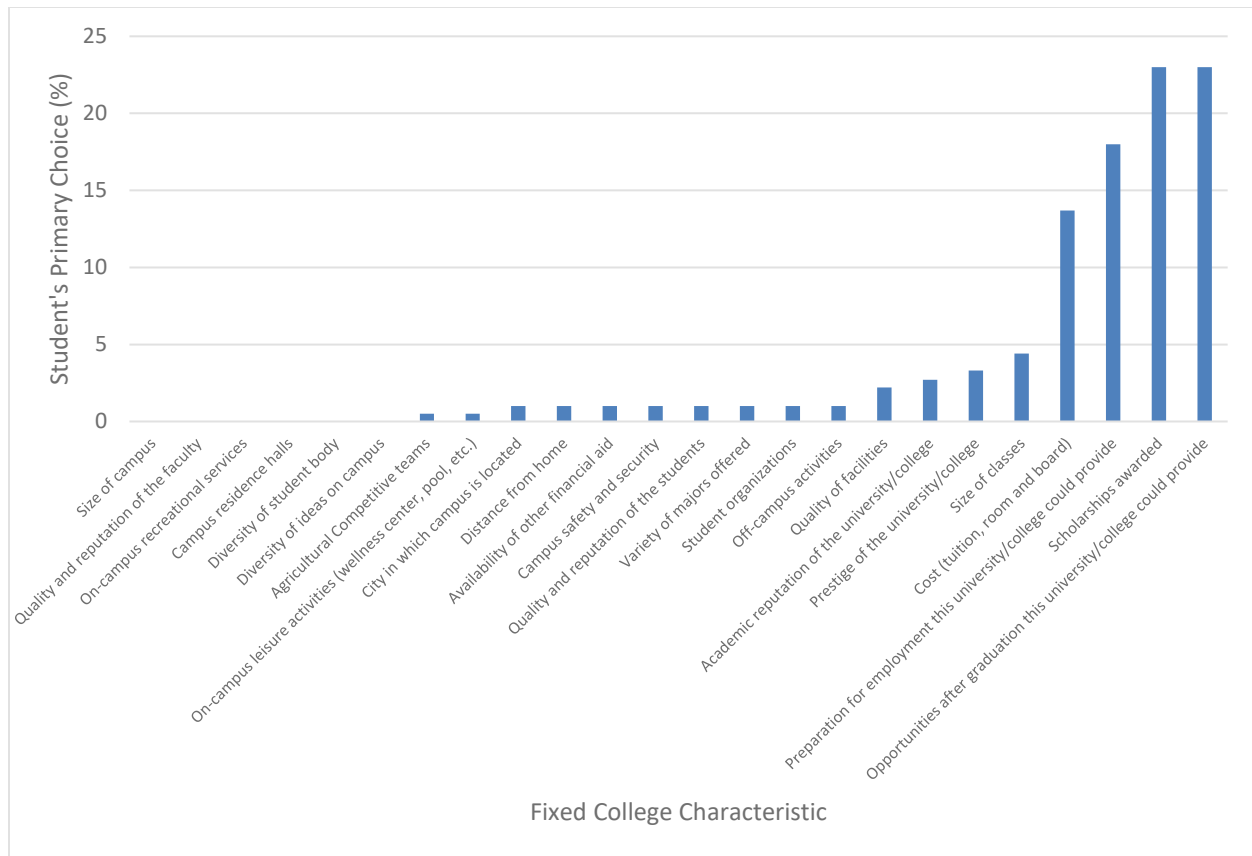


Figure 4.9 Poultry science student’s primary choice (%) in fixed college characteristics: Overall.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to select a single recruitment activity as their “most favorable” activity from the selection. Values are illustrated as percentages.

Influence of Significant Persons

When considering the influence of “significant person” (Figure 4.10), students ranked high school agriculture teachers as their primary choice 23% of the time and parents or guardians (20.8%) second. This is similar to responses of students in previous poultry science research, with Pardue (1990) finding parents to be the second greatest influence among poultry science students, and Berkley and Parrish (2005) finding high school agriculture teachers had impacts on student college choice among agriculture majors. Because agriculture teachers were ranked first

more than all other “significant persons” in the current study, poultry departments must capitalize on this and utilize recruitment methods such as 4-H and FFA conventions. For example, departments should host 4-H and FFA poultry events, as well as, visit high schools in order to connect with agriculture advisors and in turn, connect with prospective students. Even though students may not feel as though high school visits are one of the most important recruitment activities, perhaps the focus should be directed more toward the teachers during these visits instead.

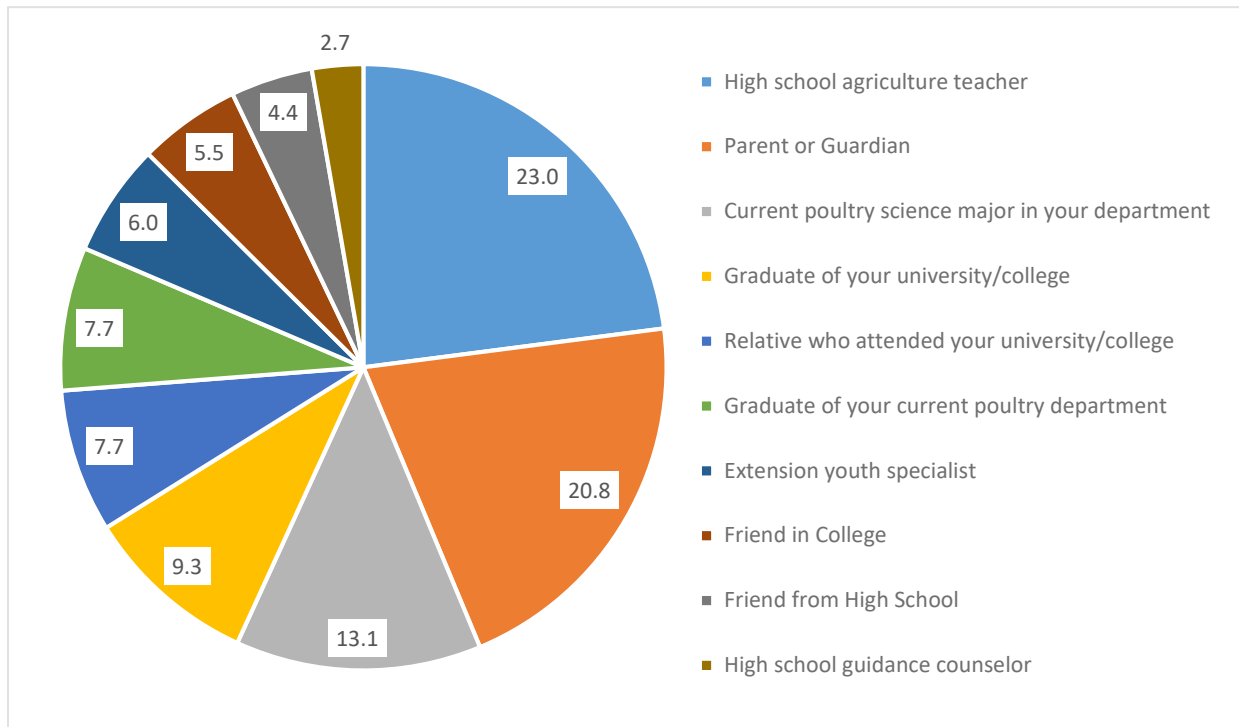


Figure 4.10 Poultry science student’s primary choice (%) of significant person influence.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to rank the ten choices given above of significant person in “most favorable” to least favorable.”

Internal Factors

Level of Aspiration and Aptitude

Internal factors can affect a student's choice of major just as the above external factors. Level of aspiration illustrated in Figure 4.11 reveals that almost half (45.9%) of poultry science majors plan to only obtain a bachelor's degree, with the next highest percentage being students who plan to pursue a DVM (22%). This result reiterates student's choice in the fixed college characteristics of employment opportunities and preparedness for employment in that students are choosing to major in poultry science because upon graduation with just a bachelor's degree they have numerous job opportunities.

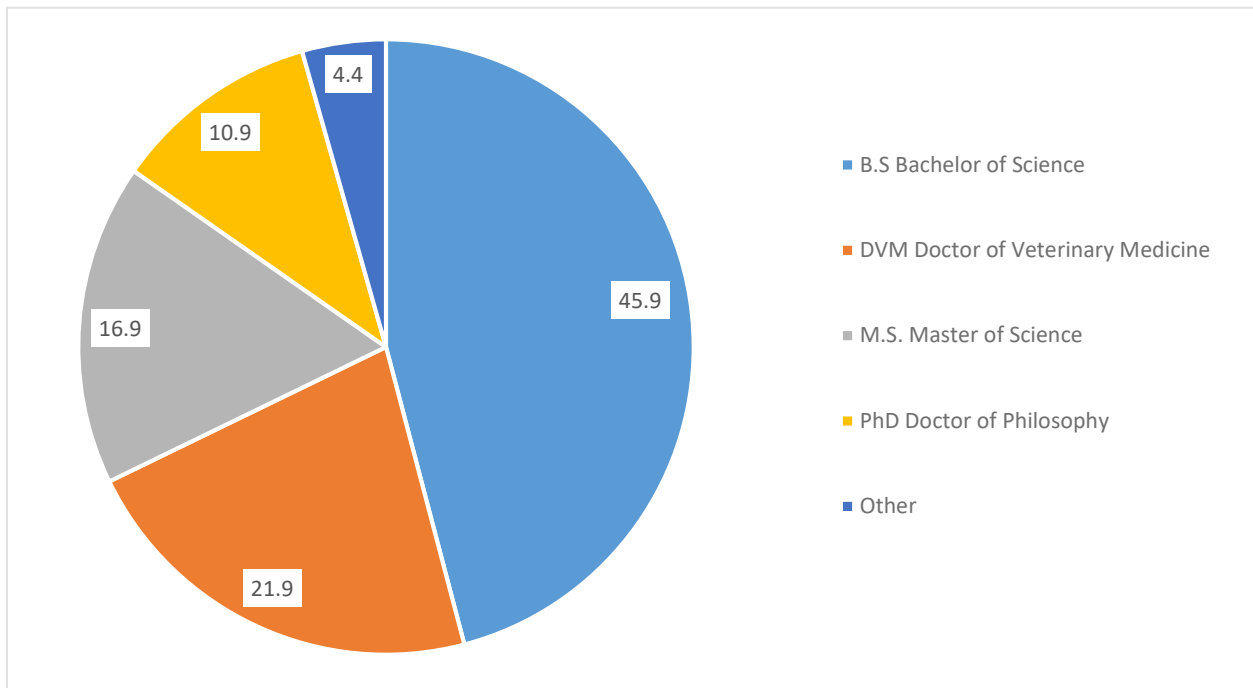


Figure 4.11 Poultry science students' highest planned degree.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to choose the highest planned degree they were seeking to obtain.

For aptitude and performance, students in poultry science have an average ACT score of 23.95 with the national average being 21 (ACT College and Career Readiness, 2017). The average high school GPA was 3.82 and current university GPA was 3.28 in the current study (Figure 4.12). These results are similar to the most current national average university GPA of 3.16 (Rojstaczer and Healy, 2010).

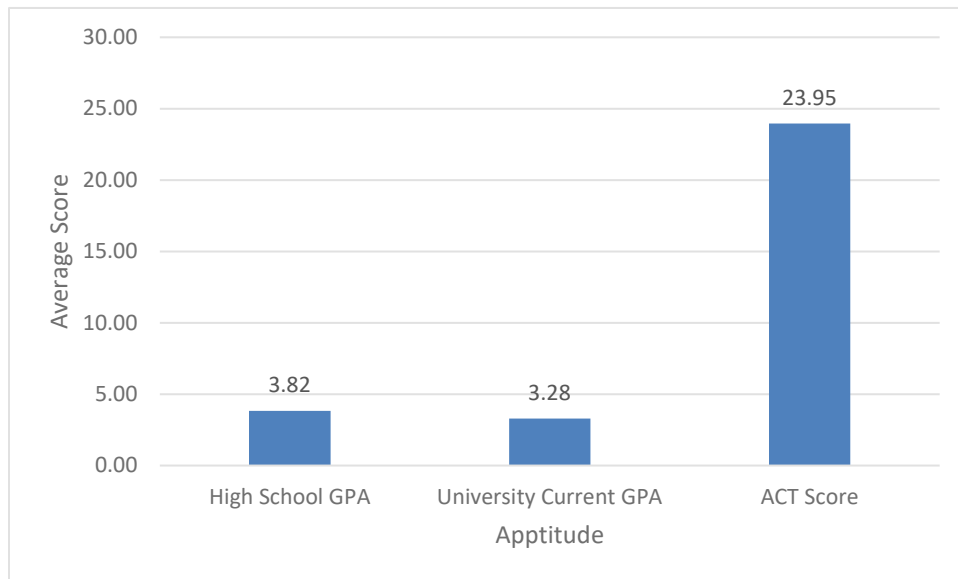


Figure 4.12 Average aptitude and performance of poultry science students.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to fill in the blank with their high school and University GPA, as of Fall 2018, as well as their ACT score. The figure shows the average of each score among all poultry science students participating in the survey.

Socioeconomics

Other internal factors such as “average income”, “background in agriculture”, and “agriculture activities” are shown in Figures 4.13, 4.14 and 4.15. The largest range chosen (30.6%) for average household income of poultry science majors was \$50,000 to \$79,999. This average income range could be an influencing factor on why students chose “cost” and

“scholarships” as a top-ranking factor in the fixed characteristics. With regards to “agricultural backgrounds” and “involvement in agriculture activities,” 58% of students reported having an agriculture background and of those students, 52% specify their background being in some type of poultry (Figure 4.16). Also, 65% of students reported being involved in “agricultural youth activities” with 57% being “poultry youth activities” (Figure 4.17). This is in contrast to early reports from Pardue (1990), where it was revealed that less than 30% of poultry science majors had a background in agriculture. It is assumed that this agriculture background means growing up in a farm setting of commercial grade. However, of the total population surveyed, 79% of those poultry science students reported having a background in poultry such as “4-H, FFA or hobby.” This 79% may not have considered 4-H or FFA and hobby birds as growing up in an agriculture background. Thus, even though the “background in agriculture” was very high in the current study as compared to that reported by Pardue (1990), the “involvement in poultry activities” was similar to that reported by Pardue (1990). Again, this demonstrates the need for recruitment in areas such as 4-H and FFA to reach students with this type of agricultural background or involvement.

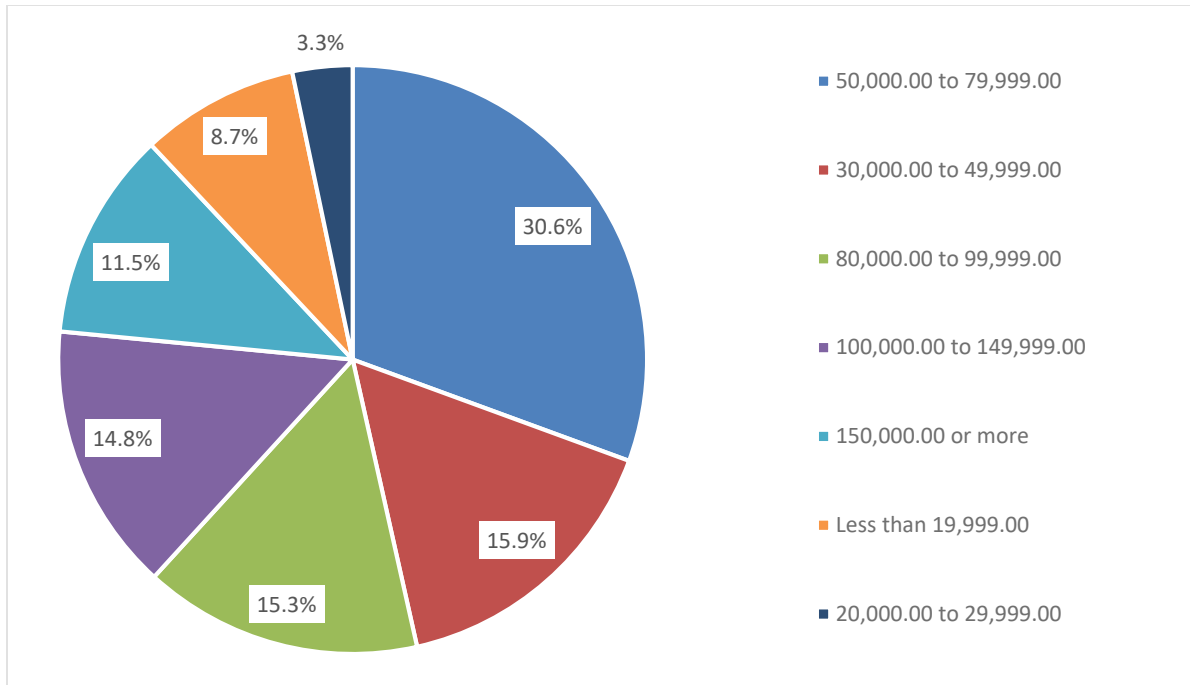


Figure 4.13 Poultry science student average household income.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked to provide the range of household income that best described their household.

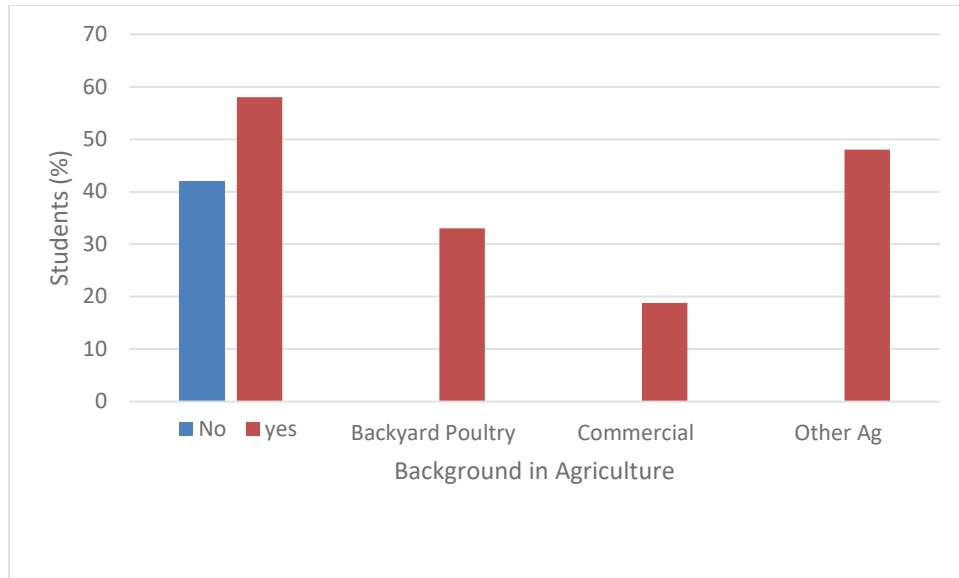


Figure 4.14 Poultry science students average background in agriculture along with the type of background in agriculture

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked whether they had a background in agriculture or not and, if so, was it poultry related.

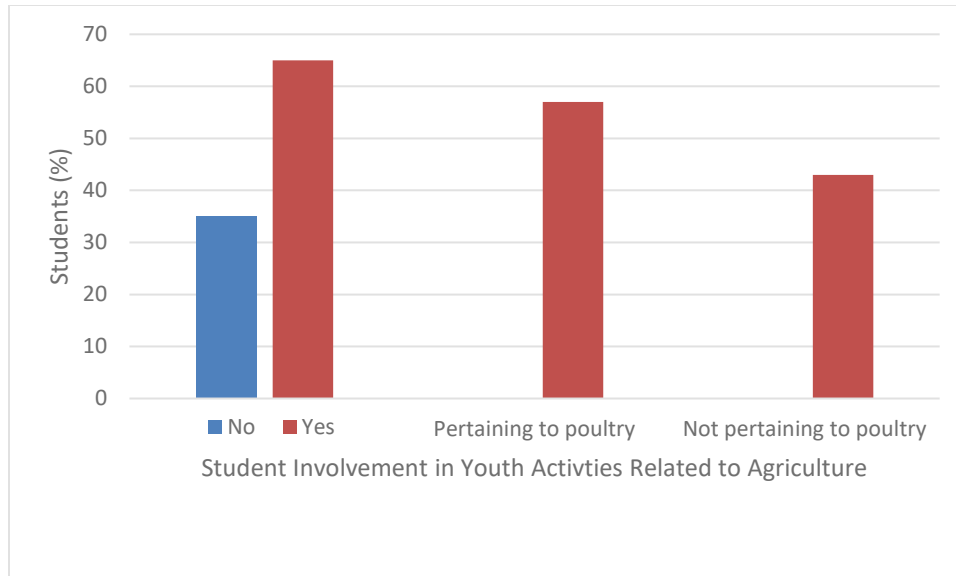


Figure 4.15 Poultry science student involvement in agricultural youth activities along with the type of activities in which students were involved.

Students consisted of the Fall 2018 enrolled students from all six poultry science departments in the U.S. (n=183). These students were asked whether they had been involved in youth activities pertaining to agriculture or not, and if so, was it poultry related.

Findings as Related to Chapman’s Model

As represented in Figure 2.1, Chapman’s Model (1981) concluded that Internal Factors and External Factors influence a student’s college choice. Internal Factors were socioeconomic status and aptitude (level of aspiration, high school performance), with External Factors being significant person (friends, parents, high school personnel), fixed college characteristics (cost, location and availability of programs) and college efforts to communicate with students (written information, campus visit, admissions, recruiting). Some significant Internal Factors and External Factors from the current study are identical to those proposed in Chapman’s model. These factors include fixed college characteristic of cost, and parents being a significant person of influence. Figure 4.16 illustrates the most important factors, as identified through the current study, for influencing poultry science students’ college choice.

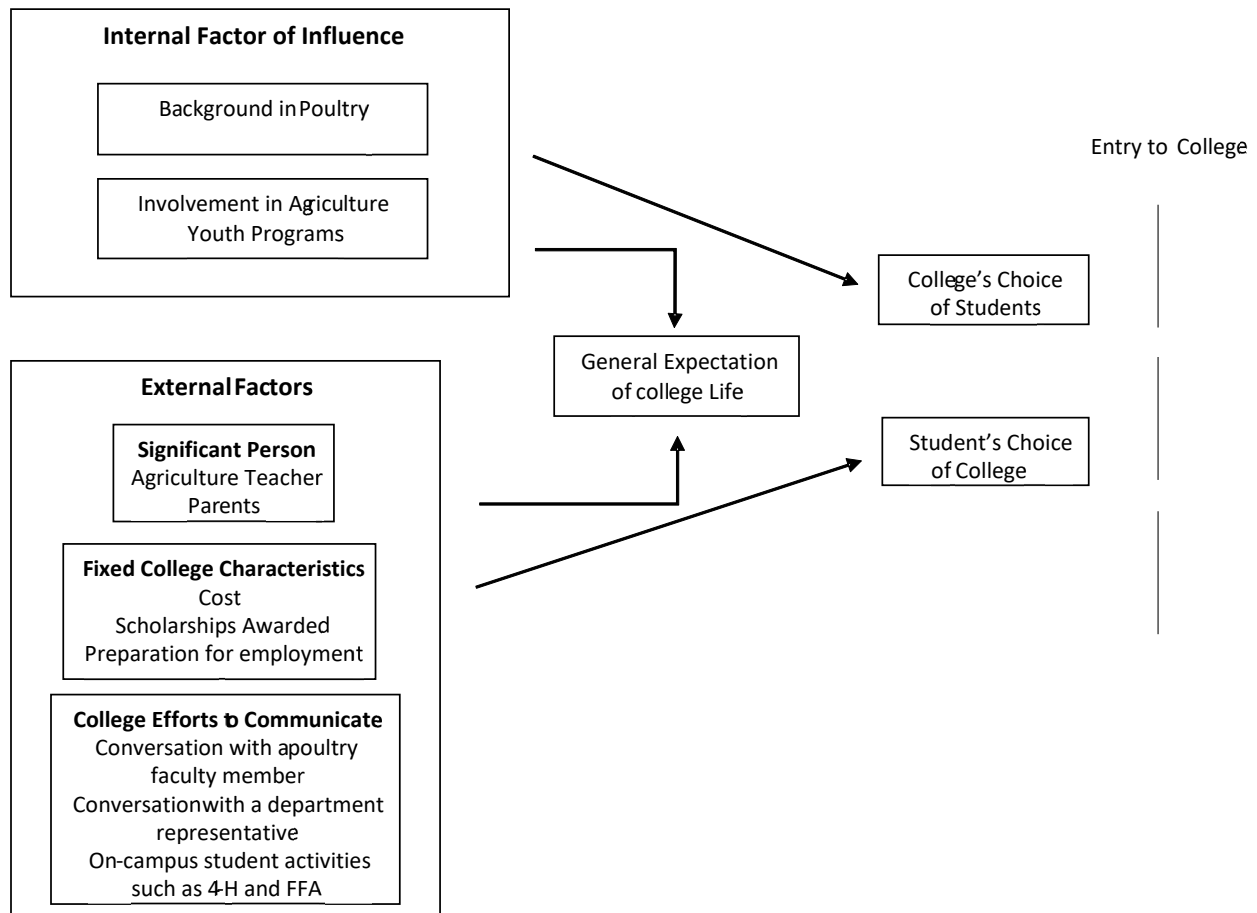


Figure 4.16 Model of factors that influence poultry science student's choice of major

Factors identified were the most important factors to students in influencing them to major in poultry science.

Comparison of Perceived Effectiveness of Recruitment Activities Among Department Heads and Student Choice of Recruitment Activities

A major question is whether the department heads' perceptions of recruiting activities mirror those of the students' preferred recruitment methods. In an attempt to answer this question, comparisons of the responses from the department head survey were made with those of the student survey. However, it is important to note that not all recruitment activity choices provided in the student survey tool were asked in the department head survey tool, and vice

versa. However, many choices were similar between the two surveys and these choices were the ones compared in Figure 4.17. These data demonstrate that all departments perceive on-campus student activities such as FFA and 4-H as “Highly Effective” with a 4.3 on the Likert-type scale. This recruitment activity was also chosen over all other events listed as the students’ primary choice in recruitment methods that had an impact on their choice of major. Also, letter and/or information mailed from a poultry faculty member, though not as highly ranked by students as on-campus activities, was ranked high by both faculty and students alike. Furthermore, it should be noted that participation in on-campus recruitment events, social media, brochures, and visits to high schools were not ranked very favorable as recruitment methods by students, but were given higher scores of effectiveness (3.5 “average”) on the Likert-type scale by department heads. Even more revealing, most students do not consider campus tours as influential in their choice of major; however, department heads considered this recruitment method as “Highly Effective” (4.5). Based on these findings, it is apparent that campus tours are being utilized by departments because of their perceived effectiveness, but are not viewed highly by students. However, conversations with a poultry representative were chosen over all other means to communicate by students. Pardue (1990) noted that these conversations often occur during campus tours. Therefore, it is possible that the tour itself may not be favorable; however, those conversations that are sparked during these tours are placed in high regard by students. In addition, other low-ranking activities by students, such as social media, participation in on-campus recruitment events and TV/Radio/Magazine advertisement, were also not viewed as effective by department heads. Perhaps not much money or effort should be allocated to these activities. Overall, this chart demonstrates focus areas for departments and suggests efforts should be spent on FFA and 4-H activities related to poultry such as hosting state competitions or

learning camps for youth. Additionally, time should be spent to personally reach out to students through packets with personalized letters sent by department representatives. These data also suggest that less time and money should be spent on printed materials and social media.

Although campus tours should be given, efforts during these tours should focus on connecting students face-to-face with a faculty member and inducing conversations about the department and what it offers students.

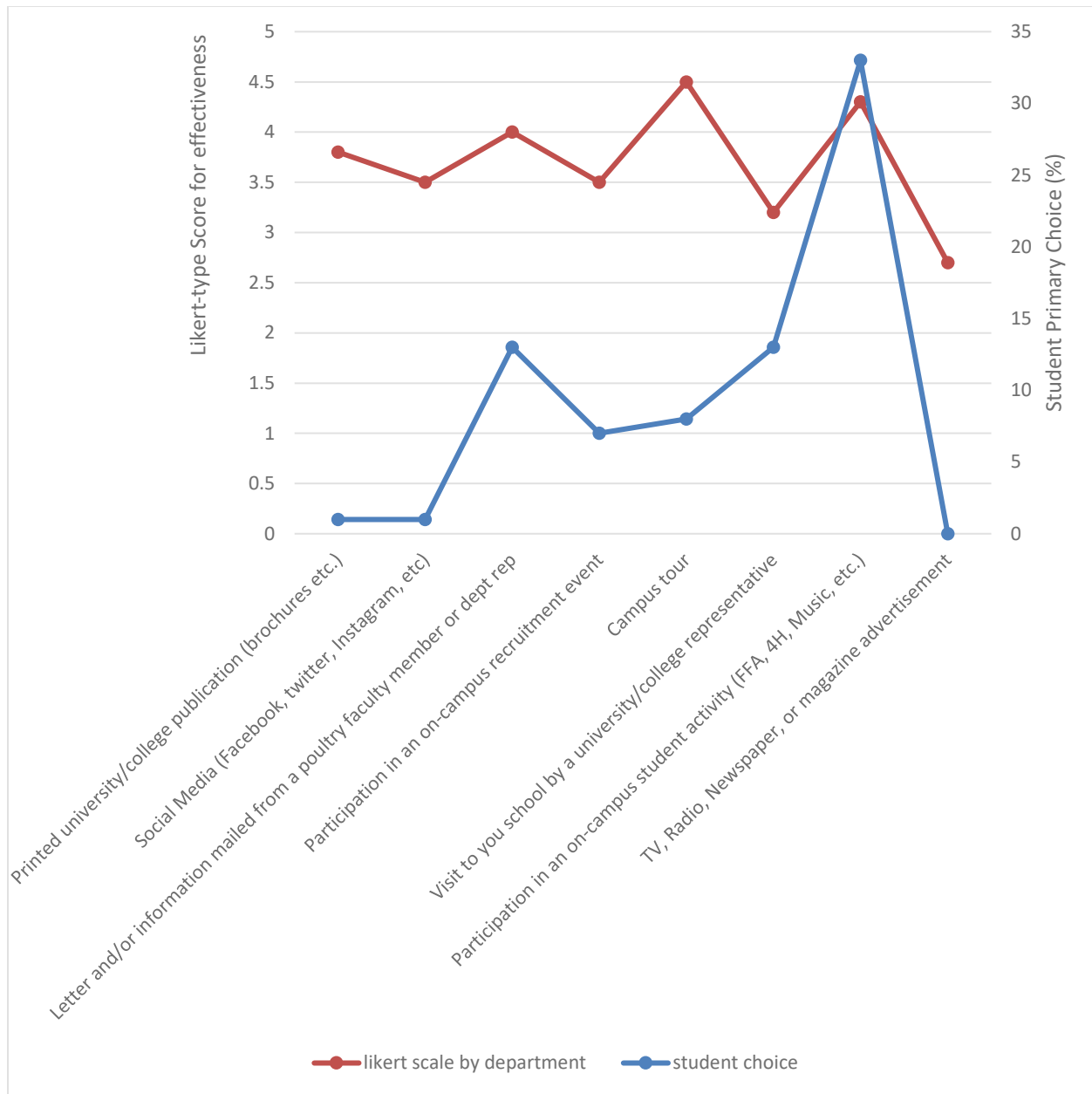


Figure 4.17 Relationship between student’s primary choice of recruitment method and department head “perceived effectiveness” of recruitment methods.

The survey tool administered to the department heads as well as the survey tool administered to students were not the same. However, there were a few similarities in recruitment activities they were asked to consider. Those similar recruitment activities chosen by the six poultry science departments (n=6) and students (n=183) were selected and graphed comparing their Likert-type scale and effectiveness.

Within this study, it is important to consider all of the student preferences of factors that influence poultry science students as to why they select their major. It is also apparent that the majority of poultry science student respondents prefer verbal communication to other forms of communications and prefer to gain information about cost, scholarships and employment opportunities. Agriculture teachers were overwhelmingly considered to be “significant persons,” and over half of the population sampled were involved in agriculture and agriculture activities. This information should be utilized as a key recruitment element to reach students through recruitment activities such as 4-H and FFA. The information gained from this study can be used to build a recruitment plan that is formatted to attract the correct students into the major of poultry science. This information, along with the information gained in the studies illustrated in Chapters II and III, should allow for the creation of an effective recruitment plan for poultry science departments to hopefully increase poultry student numbers nationwide.

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CHAPTER V

CONCLUSION

Summary

The National Chicken Council states that over the last 50 years per capita consumption of poultry has risen nearly 75 pounds (National Chicken Council, 2018) and will likely continue to rise with population estimates at 9.7 billion to be reached in 2050 (United Nations, 2015). Furthermore, chicken is considered a better value than other meats by U.S. consumers (National Chicken Council, 2018). Therefore, with populations continuing to rise and poultry being a valued choice of meat, it is likely that poultry will remain largely present. As previously mentioned, prior to this research, a decline in poultry science departments and student numbers has occurred (Sunde, 1972; Pardue, 1990; Thaxton-Vizzier et al., 2003), and currently, only six degree-granting universities remain (U.S. Poultry and Egg Association, 2019). Sunde (1972) specifically stated this reduction was due to low student enrollment in classes in poultry science departments. However, it is possible these dwindling number of departments are the result of other factors. For instance, the six poultry science departments are located in states that lead the U.S. for broiler production (USDA, 2017). Therefore, it could be that universities in other states did not feel the need to continue an undergraduate program in poultry science because poultry production was not a state priority. The limited number of degree-granting programs mixed with the projected increase in consumption suggest that more undergraduate poultry science students are needed.

In Chapter II, an environmental scan was conducted of the poultry science departments and it was concluded that all have a recruitment program in place; however, their time spent recruiting, along with their budgets, varied. It was also apparent that even though all departments have a recruitment program, only five departments have a recruitment plan in place and those departments all have larger enrollment numbers than the one department who does not have a recruitment plan. A linear increase in student enrollment when averaged across departments was observed ($P=0.0491$; Figure 2.4) for a five-year period from fall 2014 to 2018; however, linear increases in enrollment were only observed in three of the six poultry science departments, when analyzed individually ($P=0.0343$, $P=0.0099$, and $P=0.0096$). While improvements in enrollment were not seen in each department, these data are different from earlier reports where student declines in enrollment were observed (Beck, 1992; Sunde, 1972; and Thaxton-Vizzier et al., 2003).

In Chapter III, the department heads from the six departments, as well as students from each of these departments ($n=183$) were surveyed. The findings from these surveys were utilized to determine the effects of recruitment practices on student enrollment, student satisfaction, and student graduation rate. There were no significant correlations of student enrollment numbers with student satisfaction or student graduation (Figure 3.2, $P=0.3774$; Figure 3.3, $P=0.1482$; Figure 3.4, $P=0.4833$; Figure 3.5, $P=0.2261$; Figure 3.6, $P = 0.8415$; Figure 3.7, $P = 0.9357$). However, when looking at the opinions of current poultry science department heads on the “effectiveness of recruitment activities”, differences among departments existed. The department (Department 5) ranking recruitment activities such as pamphlets, direct mailing to potential students, and attendance at FFA National Convention as “Less Effective” than other activities had the lowest enrollment numbers as compared to other departments but the highest

graduation rate. Therefore, their few students are apparently suited for the department and their recruiting practices are targeting the correct population.

In Chapter IV, Chapman's model (Chapman, 1981) was utilized to determine factors affecting student choice to major in poultry science. It was determined that conversations with a poultry faculty member or department representative and on-campus activities (FFA/4-H etc.) were the most influential communication efforts (Figure 4.5). This is congruent with Pardue (1990) who observed that poultry faculty were the most influential factor for poultry science students. Pardue (1990) also reported that 79% of students surveyed had some type of poultry background, consisting of backyard hobby, FFA or 4-H. Most influential fixed college factors were cost, scholarship and employment opportunities, and preparation. Furthermore, the most influential significant persons were high school agriculture teachers and parents. Pardue (1990) observed similar findings in that parents were ranked the second highest influential factor in decisions of major among poultry science students. It was also determined that some current recruitment practices that are favored by students are also viewed as "Highly Effective" by department heads, such as letters and mailings from department faculty or representatives, as well as on-campus events, (i.e. 4-H and FFA). However, department heads and students did not seem to agree on other recruitment methods, such as campus tours. Students did not find campus tours very favorable, while department heads reported them as "Effective." However, Pardue (1990) determined that campus tours were rated "Highly Effective" because of the communication with faculty that occurred during these tours.

Effective recruitment plans can be derived from these findings. There are listed practices that seem to be viewed as effective by department heads and students, and therefore should be utilized. Recruiting funds and time, though, should be managed and spent in areas of the most

influential factors. That is not to say that other efforts should not be utilized, because some of the activities that were not chosen by the large majority, were still chosen by some students, and these students could be lost if activities of this nature are not utilized.

Limitations

Findings support the statements presented above, but there are limitations to this research. The return rate of these surveys was only 37.5% of currently enrolled poultry science students. However, when viewing each individual department, half of these departments had a successful return rate of over half the population. Smaller departments had higher return rates, with the department having the largest number of enrolled students also having the lowest return rate of 17%.

Aside from how many students actually completed the survey, one must consider that those completing the survey are only currently-enrolled, poultry science students. In fact, students who may have been recruited but selected another major were not surveyed. Therefore, these surveyed students cannot provide the perspective of non-poultry science students who had considered pursuing a major in poultry science. Also, it is possible that some of the listed recruitment methods are only targeting a select audience; and, if broadened, could potentially capture a broader population of students. Another limitation is the limited amount of data in the current study. With only six poultry science departments nationwide, small variations in survey data have the potential to have large impacts on results obtained.

Future Research

Even though limitations within this research exist, these data inform future research. Future research should consider the fact that obtaining adequate information on recruitment

programs, especially from a department as specialized as poultry, is difficult. A collective database that archives longitudinal data about poultry science students and poultry science departments could be useful in documenting trends. If data were managed by a single entity, possibly a third party, for all six-remaining degree-granting departments, higher quality data could be managed and more conclusive suggestions for the betterment of these departments could be provided. Additionally, the recruitment efforts of each department could be reviewed with precision to determine specific activities in which faculty should focus more of their resources. Differences in enrollment, retention and student satisfaction could be closely monitored in order to see slight differences in recruitment practices in order to make changes to other departments whose enrollment may be lacking. Additionally, a database could elucidate changes in enrollment for a particular department and decide if those changes are the result of recruitment activities or effects from other factors such as population trends, industry growth or any other factor outside of a departmental recruiter's control.

Furthermore, research areas should include a more in-depth search of department demographics such as class size, nature of coursework being offered in a respective department (i.e. applied or basic), and the focus of the undergraduate curriculum (i.e. commercial or hobby). Other research areas could focus on poultry science graduates (i.e. alumni survey) as they enter the workforce. That research could explore what departmental characteristics best prepare graduates for jobs in the industry and their satisfaction in those jobs. Some of the variables included in the current study could be useful in future studies that seek to determine the relationship between departmental characteristics and graduates' readiness to work in the poultry industry. Relating to this readiness of students for industry, perhaps organizations need to fund opportunities for high school students to engage in the industry prior to the decision process of

choosing a major. This could be an effective recruitment method as well as an aid in long term student retention and satisfaction that carries into the industry.

Lastly, the findings presented here suggest that even less effective recruitment methods should still be utilized. It is possible that even if a recruitment activity is not deemed as effective in influencing a student to choose the major of poultry science, it may still be an important part of the recruitment process. It is possible that some recruitment activities should be utilized not for recruiting a student, but for initial marketing of the idea of a college degree in poultry science or presenting the departmental image of being “engaged” with students.

In some cases, students may not notice a certain recruitment effort but would certainly notice if the effort was not present. For example, what would happen if a poultry science department stopped using social media to recruit students because this study’s department heads did not consider social media the most important recruitment strategy? It could be that a potential student would question why the poultry science department does not use social media to connect with students while other departments on campus continue to use social media. By questioning this use, the potential student might consider another academic major, one that uses social media, as compared to the poultry science department that did not. In this example, the use of social media was not essential for recruiting the student, but the absence of social media influenced a student’s decision to consider another academic major. This is a very simplistic example but one to illustrate that even “Less Effective” strategies might be important.

Additional research could explore the departments’ rationale or motivation for using each recruitment strategy identified in the current study. More specifically, research could explore which recruitment efforts are essential for student recruitment and which are necessary for other marketing purposes. This would inform departmental decisions about budget allocation to the

various recruitment strategies—some used for direct student recruitment and other strategies for general marketing.

Data collection from this research, as well as previous research mentioned in Chapter I, focused heavily on the student. However, what if more could be determined about the recruiter and recruitment process? It could be that even if the correct recruitment methods are being utilized to their fullest potential, they will not be productive unless under the direction of the correct person. Data should be collected to determine if differences in recruiter styles and personalities impact student numbers, because this would be an asset to building a successful recruitment program. If a certain type of recruiter appeals more to potential poultry science students, this information is needed by departments in order to yield productive recruitment practices.

Of course, future research efforts should focus specifically on poultry departments, students, alumni, and the poultry industry, not on agriculture, in general. Because poultry science is a very specific major that focuses on a nearly single species industry that is highly structured and vertically integrated, research in the general field of agriculture or other specific agriculture fields might not be relevant to poultry science department heads or poultry science students.

APPENDIX A

INSTITUTIONAL REVIEW BOARD LETTER OF APPROVAL



**NOTICE OF DETERMINATION FROM THE HUMAN RESEARCH
PROTECTION PROGRAM**

DATE: October 25, 2018
TO: Christopher McDaniel, PhD, Poultry Science, George Tabler; Jessica Wells; Kelley Wamsley; Laura Downey
PROTOCOL TITLE: Effectiveness of Recruiting Techniques used in Poultry Science Departments
in the United States
PROTOCOL NUMBER: IRB-18-474
Approval Date: October 25, 2018 Expiration Date: October 24, 2023

EXEMPTION DETERMINATION

The review of your research study referenced above has been completed. The HRPP had made an Exemption Determination as defined by 45 CFR 46.101(b)2. Based on this determination, and in accordance with Federal Regulations, your research does not require further oversight by the HRPP.

Employing best practices for Exempt studies are strongly encouraged such as adherence to the ethical principles articulated in the Belmont Report, found at www.hhs.gov/ohrp/regulations-and-policy/belmont-report/# as well as the MSU HRPP Operations Manual, found at www.orc.msstate.edu/humansubjects. Additionally, to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so.

Based on this determination, this study has been inactivated in our system. This means that recruitment, enrollment, data collection, and/or data analysis **CAN** continue, yet personnel and procedural amendments to this study are no longer required. **If at any point, however, the risk to participants increases, you must contact the HRPP immediately. If you are unsure if your proposed change would increase the risk, please call the HRPP office and they can guide you.**

If this research is for a thesis or dissertation, this notification is your official documentation that the HRPP has made this determination.

If you have any questions relating to the protection of human research participants, please contact the HRPP Office at irb@research.msstate.edu. We wish you success in carrying out your research project.

Review Type: EXEMPT
IRB Number: IORG0000467

APPENDIX B
INFORMED CONSENT STATEMENTS

Department of Poultry Science Department Head Consent Form

You are invited to participate in a research study to evaluate the recruitment programs at each of the 6 standalone Poultry Science Departments in the U.S. The researcher is inviting all current department heads that oversee students majoring in poultry science at one of the following Universities. Mississippi State University, North Carolina State University, Auburn University, University of Georgia, Texas A&M, and University of Arkansas. All data collected from this survey will be used for research purposes and this form is for “informed consent” and will allow you to understand the study before you make the decision to participate.

The purpose of this study is to determine the effectiveness of current recruitment programs within the 6 standalone poultry science departments in the U.S. and their correlation to student numbers, retention rates and student satisfaction. It will also evaluate the factors that influence poultry science students to choose their major.

If participating, department heads will complete a questionnaire online. The survey will ask general questions pertaining to recruitment practices as well as student populations and retention rates. The questionnaire must be completed in full and will only be administered once. The completion of the survey should take no longer than a maximum of 1 hour.

There are no risks associated with participation in this research that are greater than those encountered in everyday life.

Participation in this survey will help provide information that can ultimately help the 6 standalone poultry science departments improve their recruitment efforts and increase student numbers, retention rates, as well as student satisfaction.

Within each of the 6 poultry science departments if an 80% completion rate of participation of students in the survey is achieved a \$300.00 gift certificate for chick-fil-a will be given to the department in order to host a breakfast as a thank you for your participation.

If you choose to participate in this research, your information will remain confidential. All survey data will remain anonymous and information published will not be directly linked to any participant but rather overall averages. Remember that your participation is voluntary. Therefore, there is no penalty for not participating.

This study is being conducted by doctoral students at Mississippi State University named Jessica Wells. You may contact the lead researcher to discuss your participation at the following email:

j.wells@msstate.edu

If you choose to participate: By choosing to agree, you are indicating that you are volunteering to participate in the research and are choosing to complete the questionnaire, and that you are of the age of 18. The completion of the questionnaire is considered to be consent.

Department of Poultry Science Student Consent Form

You are invited to participate in a research study to evaluate the recruitment programs at each of the 6 standalone Poultry Science Departments in the U.S. The researcher is inviting all current students majoring in poultry science at one of the following Universities. Mississippi State University, North Carolina State University, Auburn University, University of Georgia, Texas A&M, and University of Arkansas. All data collected from this survey will be used for research purposes and this form is for “informed consent” and will allow you to understand the study before you make the decision to participate.

The purpose of this study is to determine the effectiveness of current recruitment programs within the 6 standalone poultry science departments in the U.S. and their correlation to student numbers, retention rates and student satisfaction. It will also evaluate the factors that influence poultry science students to choose their major.

If participating, students will complete a questionnaire online. The survey will ask general questions pertaining to the factors that influenced your choice in your college program. There will also be a few questions about satisfaction within your major as well as recruitment efforts utilized prior to attending your university. The questionnaire must be completed in full and will only be administered once. The completion of the survey should take no longer than a maximum of 10 minutes.

There are no risks associated with participation in this research that are greater than those encountered in everyday life.

Participation in this survey will help provide information that can ultimately help the 6 standalone poultry science departments improve their recruitment efforts and increase student numbers, retention rates, as well as student satisfaction.

Within each of the 6 poultry science departments if an 80% completion rate of participation of students in the survey is achieved a \$300.00 gift certificate for chick-fil-a will be given to the department in order to host a breakfast as a thank you for your participation.

If you choose to participate in this research, your information will remain confidential. All survey data will remain anonymous and information published will not be directly linked to any participant but rather overall averages. Remember that your participation is voluntary. Therefore, there is no penalty for not participating.

This study is being conducted by doctoral students at Mississippi State University named Jessica Wells. You may contact the lead researcher to discuss your participation at the following email: j.wells@msstate.edu

If you choose to participate: The first question within your questionnaire is a statement of consent. Please choose agree. By choosing agree, you are indicating that you are volunteering to participate in the research and are choosing to complete the questionnaire, and that you are of the age of 18.

APPENDIX C
SURVEY TOOLS

Department Head Survey

Q1: Please review each question and answer to the best of your ability.

Within this survey the term recruitment program is used. For the purpose of this survey a recruitment program should be defined as any type of recruitment practices including but not limited to printed materials, hosting prospective students, attending recruitment events, 4-H and FFA involvement etc.

Q2: Please choose the department you are referring too within this survey

- MSU (1)
- Texas A&M (2)
- Arkansas (3)
- Auburn (4)
- N.C. State (5)
- Georgia (6)

Q3: To the best of your knowledge does your department currently have an active recruitment program?

- Yes (1)
- No (2)

Q4: To the best of your knowledge how long has your department had an active recruitment program?

- We have had a recruitment program functioning for the last five years (1)
- We have had a recruitment program functioning for more than five years but less than ten (2)
- We have had a recruitment program functioning for more than ten years. (3)

Q5: To the best of your knowledge has the recruitment program increased or decreased in the duration they have functioned?

- The recruitment program has steadily increased in function since it has operated (1)
- The recruitment program has steadily decreased in function since it has operated (2)
- The recruitment program has neither increased or decreased since it has operated (3)

Q6: How many full time employees work with recruitment in your department?

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
- 4 (5)
- 5 (6)
- more than 5 (7)

Q7: How many part time employees work with recruitment in your department?

- 0 (1)
- 1 (2)

- 2 (3)
- 3 (4)
- 4 (5)
- 5 (6)
- more than 5 (7)

Q8: How much of these employees time is spent on recruitment in a year?

- Less than 10% of their work time (1)
- More than 10% but less than 25% of their work time (2)
- More than 25% but less than 50% of their work time (3)
- More than 50% but less than 75% of their work time (4)
- More than 75% of their work time (5)

Q9: Please indicated your yearly recruitment budget.

- \$0 to \$4,999.00 (1)
- \$5,000.00 to 9,999.00 (2)
- \$10,000.00 to \$19,999.00 (3)
- \$20,000.00 to 39,999.00 (4)
- \$40,000.00 to \$59,000.00 (5)
- \$60,000.00 to 79,999.00 (6)
- \$80,000.00 to 99,999.00 (7)
- Over \$100,000.00 (8)

Q10: In total over the last five years your recruitment budget has:

- Increased in amount (1)
- Decreased in amount (2)
- Remained the same (3)

Q11: In the next five years you expect our recruitment budget to:

- Increase in amount (1)
- Decrease in amount (2)
- Remain the same (3)

Q12: Please indicated the enrollment head counts of only full time poultry science majors for fall semesters indicated below:

- Fall 2014 (1) _____
- Fall 2015 (2) _____
- Fall 2016 (3) _____
- Fall 2017 (4) _____
- Fall 2018 (5) _____

Q13: Please indicate the total new student enrollment for your incoming Fall class in each year indicated below:

	Transfer (1)	Freshman (2)
2014		
2015		
2016		
2017		
2018		

Q14: Please fill in the blank using your data that will be submitted to the common data set initiative reports for FAIES reports. These answers should only pertain to full time undergraduate poultry science majors within your department.

In the following section for bachelor's or equivalent programs, please disaggregate the Fall 2012 cohorts (formerly CDS B4-B11) into four groups: • Students who received a Federal Pell Grant* • Recipients of a subsidized Stafford Loan who did not receive a Pell Grant • Students who did not receive either a Pell Grant or a subsidized Stafford Loan • Total (all students, regardless of Pell Grant or subsidized loan status) *Students who received both a Federal Pell Grant and a subsidized Stafford Loan should be reported in the "Recipients of a Federal Pell Grant" column. For each graduation rate grid below, the numbers in the first three columns for Questions A should sum to the cohort total in the fourth column (formerly CDS B).

Total Number of Students (1)

Initial 2012 cohort of first-time, full-time bachelor's degree seeking undergraduate-students (1)

Of the initial 2012 cohort, how many did not persist and did not graduate for the following reasons: decreased, permanently disabled, armed forces, foreign aid service of the federal government, or official church mission; total allowable exclusions (2)

Final 2012 cohort, after adjusting for allowable exclusions (3)

Of the initial 2012 cohort, how many completed the program in four years or less (by Aug. 31, 2016) (4)	
Of the initial 2012 cohort, how many completed the program in more than four years but in five years or less (after Aug 31, 2016 and by Aug 31, 2017) (5)	
Of the initial 2012 cohort, how many completed the program in more than five years but in six years or less (after Aug. 31, 2017 and by Aug, 31, 2018) (6)	
Total graduating within six years (sum of lines D, E, and F) (7)	
Six-year graduating rate for 2012 cohort (G divided by C) (8)	

Q15: Please answer all portions of the question.

	Select Yes or No		Likert-type Scale: 1 being not effective and 5 being very effective				
	Yes (1)	No (2)	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)

Do you currently have a recruitment plan describing goals and activities of the department to attract students?
(1)

Q16: Please answer all portions of the question. For each recruitment activity listed below, please answer the questions to the right by clicking the appropriate boxes

	How effective do you perceive this activity in the last 5 years					Did you use this activity in the last five years		Would you continue this activity in the next five years	
	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	Yes (1)	NO (2)	Yes (1)	NO (2)

Recruitment Activity (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visits to high schools (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visits to your campus by prospective students (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
College recruitment events your department participated in (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
College fairs at your university (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
off campus college fair (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
displays or booths in public locations (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
direct mailing to prospective students (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
advertising in/on public posters billboards etc. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
social media (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
host 4-H and/or FFA poultry activities (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4-H National Convention (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FFA National Convention (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochures/Pamphlets (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotional videos (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Promotional items
(pens, Koozies,
buttons, etc.) (16)



Poultry Science Student Survey

Q1: Thank you for your participation. Please answer the following questions to the best of your ability.

Q2: I agree to participate in this study

- Agree (1)
- Do not agree (2)

Q3: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science

Please rank all of the following items by using your cursor and dragging each item into order (top being most important to bottom being least important).

- _____ Conversation with a poultry faculty member (1)
- _____ Conversation with a poultry department representative (2)
- _____ Conversation with a college recruiter (3)

Q4: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science Please rank all of the following items by using your

cursor and dragging each item into order (top being most important to bottom being least important).

_____ Letter and/or information mailed from a poultry faculty member (1)

_____ Letter and/or information mailed from an poultry department representative (2)

_____ Letter and/or information mailed from a college recruiter (3)

Q5: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science

Please rank all of the following items by using your cursor and dragging each item into order (top being most important to bottom being least important).

_____ Campus tour (1)

_____ University/college information on website (2)

_____ Poultry department information on website (3)

_____ Degree information on website (4)

_____ Printed university/college publication (brochures etc.) (5)

_____ Visit to you school by a university/college representative (6)

_____ TV, Radio, Newspaper, or magazine advertisement (7)

_____ Social Media (Facebook, twitter, Instagram, etc) (8)

Q6: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science Please rank all of the following items by using your

cursor and dragging each item into order (top being most important to bottom being least important).

_____ Participation in an on-campus recruitment event (1)

_____ Participation in an on-campus student activity (FFA, 4H, Music, etc.) (2)

_____ Participation in an on-campus athletic event (sports camp, state championship, etc.) (3)

Q7: Out of all of the choices listed select one from the list that you would determine to be the most important.

- Participation in an on-campus recruitment event (1)
- Participation in an on-campus student activity (FFA, 4H, Music, etc.) (2)
- Participation in an on-campus athletic event (sports camp, state championship, etc.) (3)
- Social Media (Facebook, twitter, Instagram, etc) (4)
- TV, Radio, Newspaper, or magazine advertisement (5)
- Visit to your school by a university/college representative (6)
- Printed university/college publication (brochures etc.) (7)
- Degree information on website (8)
- Poultry department information on website (9)
- University/college information on website (10)
- Campus tour (11)
- Letter and/or information mailed from a college recruiter (12)
- Letter and/or information mailed from an poultry department representative (13)

- Letter and/or information mailed from a poultry faculty member (14)
- Conversation with a college recruiter (15)
- Conversation with an poultry department representative (16)
- Conversation with a poultry faculty member (17)

Q8: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science

Please rank all of the following items by using your cursor and dragging each item into order (top being most important to bottom being least important).

- _____ Quality of facilities (1)
- _____ City in which campus is located (2)
- _____ Distance from home (3)
- _____ Size of campus (4)
- _____ Size of classes (5)
- _____ Cost (tuition, room and board) (6)
- _____ Scholarships awarded (7)
- _____ Availability of other financial aid (8)
- _____ Campus safety and security (9)

Q9: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science Please rank all of the following items by using your

cursor and dragging each item into order (top being most important to bottom being least important).

- _____ academic reputation of the university/college (1)
- _____ prestige of the university/college (2)
- _____ Quality and reputation of the faculty (3)
- _____ Quality and reputation of the students (4)
- _____ Preparation for employment this university/college could provide (5)
- _____ Opportunities after graduation this university/college could provide (6)
- _____ Variety of majors offered (7)

Q10: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science

Please rank all of the following items by using your cursor and dragging each item into order (top being most important to bottom being least important).

- _____ Agricultural Competitive teams (1)
- _____ On-campus recreational services (2)
- _____ Student organizations (3)
- _____ Off-campus activities (4)
- _____ On-campus leisure activities (wellness center, pool, etc.) (5)
- _____ Campus residence halls (6)
- _____ Diversity of student body (7)
- _____ Diversity of ideas on-campus (8)

Q11: Out of all of the choices listed select one from the list that you would determine to be the most important.

- Diversity of ideas on-campus (1)
- Diversity of student body (2)
- Campus residence halls (3)
- On-campus leisure activities (wellness center, pool, etc.) (4)
- Off-campus activities (5)
- Student organizations (6)
- On-campus recreational services (7)
- Agricultural Competitive teams (8)
- Variety of majors offered (9)
- Opportunities after graduation this university/college could provide (10)
- Preparation for employment this university/college could provide (11)
- Quality and reputation of the students (12)
- prestige of the university/college (13)
- academic reputation of the university/college (14)
- Campus safety and security (15)
- Scholarships awarded (16)
- Availability of other financial aid (17)
- Cost (tuition, room and board) (18)
- Size of classes (19)
- Size of campus (20)

- Distance from home (21)
- City in which campus is located (22)
- Quality of facilities (23)

Q12: For each factor, rank the items in terms of the level of influence of the item in regard to how you chose the major of poultry science

Please rank all of the following items by using your cursor and dragging each item into order (top being most important to bottom being least important).

- _____ Friend from High School (1)
- _____ Friend in College (2)
- _____ Parent or Guardian (3)
- _____ Relative who attended your university/college (4)
- _____ High school guidance counselor (5)
- _____ High school agriculture teacher (6)
- _____ Extension youth specialist (7)
- _____ Graduate of your university/college (8)
- _____ Graduate of your current poultry department (9)
- _____ Current poultry science major in your department (11)

Q13: Being as specific as possible without the use of names, please indicate the most influential person in your decision to choose poultry science as your major.

Q14: What University do you currently attend?

- Mississippi State University (1)
- University of Arkansas (2)
- North Carolina State University (3)
- Texas A&M (4)
- Auburn University (5)
- University of Georgia (6)

Q15: What is your current classification at your University

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)

Q16: Please list the academic achievement scores listed below

- High School GPA (1) _____
- University/College Overall GPA (2) _____
- ACT Score (3) _____

Q17: What is the highest degree listed below you plan to achieve?

- B.S. Bachelor of Science (1)
- M.S. Master of Science (2)
- PhD Doctor of Philosophy (3)
- DVM Doctor of Veterinary Medicine (4)
- Other (5)

Q18: Are you a first generation college student

- Yes (1)
- No (2)

Q19: Please indicate your family's yearly household income?

- Less than \$19,999.00 (1)
- \$20,000.00 to \$29,999.00 (2)
- \$30,000.00 to \$49,999.00 (3)
- \$50,000.00 to \$79,999.00 (4)
- \$80,000.00 to \$99,999.00 (5)
- \$100,000.00 to \$149,999.00 (6)
- \$150,000.00 or more (7)

Q20: Did you grow up within agriculture?

- Yes (1)
- No (2)

Q21: What portion of agriculture did you grow up within?

- Commercial Poultry Operations (1)
- Backyard Poultry Operations (2)
- Other (3)

Q22: Were you involved in any Agricultural Youth Activities? (FFA, 4H etc.)

Yes (1)

No (2)

Q23: Were the Agricultural Youth Activities you were involved in pertaining to poultry?

Yes (1)

No (2)

Q24: Before choosing the University you are currently attending, did you consider attending somewhere else?

Yes (1)

No (2)

Q25: Please elaborate on what University/Universities you considered and why you ultimately decided not to attend them.

Q26: Do your current experiences within your department match the expectations you had when you were initially recruited into the department?

Yes (1)

No (2)

Q27: To the best of your ability please explain your "No" answer from the previous question of your expectations and current experiences.
