2013

Barriers and Solutions to Recruitment Strategies of Students into Post-Secondary Agricultural Education Programs: A Focus Group Approach

Jennifer Calvin
Southern Illinois University Carbondale

Seburn L. Pense
Southern Illinois University Carbondale

Recommended Citation
Calvin, Jennifer and Pense, Seburn L. "Barriers and Solutions to Recruitment Strategies of Students into Post-Secondary Agricultural Education Programs: A Focus Group Approach." *Journal of Agricultural Education* 54, No. 4 (Jan 2013): 45-57. doi:10.5032/jae.2013.04045.

Journal of Agricultural Education
Volume 54, Number 4, pp. 45 – 57
DOI: 10.5032/jae.2013.04045

Barriers and Solutions to Recruitment Strategies of Students into Post-Secondary Agricultural Education Programs: A Focus Group Approach

Jennifer Calvin
Seburn L. Pense
Southern Illinois University, Carbondale

This qualitative study utilized focus group interviews of secondary Illinois agricultural education teachers to investigate the continuing problem of student recruitment into teacher preparation programs of agricultural education. Using signal theory, image theory and person-organization fit theory, the researchers identified five themes relating to recruitment issues: time, the economy, family, technology and image. Each theme is described through the words of the participants and solutions are suggested for improving recruitment.

Keywords: agricultural education; college recruiting; teacher perceptions

The applied sciences, such as family and consumer science and agricultural education have perennially had difficulties in filling teaching positions in the secondary school systems. In agricultural education, this teacher shortage has been a problem for nearly 100 years (Camp, 2000). In 2011, it was estimated that over two million teachers would be needed in the U.S. due to attrition, retirements and growing student enrollments (NSEA). While there are numerous factors such as legislation and public perception affecting whether graduates go on to become agricultural education teachers, recruitment of high school students into agricultural education teacher programs continues to be of concern (Kantrovich, 2007).

Various studies have examined whether secondary agriculture students intend to pursue teaching in agriculture as a career (Lawver & Torres, 2012), what expert secondary agricultural education teachers perceive to be the problems in recruiting secondary students into teaching (Dyer & Breja, 2003), the characteristics that determine students' decisions to choose agricultural education as a career (Park & Rudd, 2005), factors that influence students' decisions to pursue agricultural education as a career (Reis & Kahler, 1997), and the factors that influence which area of agricultural science to study as a major in college (Wildman & Torres, 2001). However, after these periodic examinations, we do not yet have a clear understanding of why secondary agriculture students do not choose agricultural education as a career, nor do we understand why recruiting secondary agriculture students into agricultural education college programs continues to be so difficult.

Therefore, *the purpose of this study* was to identify potential barriers to the successful recruitment of quality students into teacher education programs for agricultural education as well as potential solutions to the recruitment problems. This first study, of three planned studies, used focus group interviews with secondary agricultural education teachers to obtain in depth information on perceptions of existing recruiting barriers, how to improve recruiting efforts, and to identify the particular recruiting concerns that arose during the recent economic downturn. In particular, the study addressed the following research questions:

1. What are the perceptions of secondary agricultural education teachers of the current barriers to secondary students entering agriculture teacher education programs?
2. Has the perception of these barriers by secondary agricultural education teachers changed in any way since the beginning of the recent recession? If so, how?

3. Do secondary agricultural education teachers feel that the current Illinois economic situation has had any impact on recruiting secondary students into agriculture teacher education college programs? If so, how?
4. What are Colleges of Agriculture in Illinois doing "right" in recruiting agriculture teacher education students?
5. What are Colleges of Agriculture in Illinois doing "wrong" in recruiting agriculture teacher education students?
6. What do secondary agricultural education teachers perceive as possible solutions for recruiting more students into teacher preparation programs for agricultural education?

Conceptual Framework

There is considerable research that examines recruiting in business and universities; this extant literature is generally based on 1) signaling theory (Spence, 1973) which indicates that opposing sides of a recruitment process have asymmetrical access to information about a job or situation; 2) image theory (Beach 1990) which indicates that organizational image (that is, the overall impression of the organization) and/or recruiter image strongly influence recruiting success and 3) person-organization fit (Cable & Judge, 1996) which proposes that recruits will be more strongly attracted to organizations that are similar to them, but that new hires will leave once selected if the organization is not as similar as they were led to believe (Schneider, 1987).

To place this in context, secondary agriculture students do not have the same information that those working as agriculture educators have about the job, nor do they have the same information that agriculture educators have about agricultural education as a college major (Park & Rudd, 2005). Students receive signals from their high school agriculture teachers, and interpret them based on incomplete information. While teachers likely share information about the job of being an agriculture educator, students still would have incomplete information until they actually have experience on the job.

Colleges of Agriculture place various types of information into brochures, on websites and on posters and send this information out to secondary agriculture students; however, this information is also incomplete, highlighting what the college wants students to know. Hence, Colleges of Agriculture can only hope that the information they choose to share provides strong enough positive signals to recruit secondary students into a career teaching agriculture.

Signal theory further indicates that although the person being recruited has incomplete information, or if the person being recruited is uncertain about the situation, inferences will be drawn from the information that is available, whether positive or negative, and decisions will be made based on the cues taken from available information (Braddy, Meade & Kroustalis, 2008; Rynes, Bretz & Gerhart, 1991). This is generally true for all types of information from all types of sources.

In terms of perceived similarity with an organization, most of the psychological and management research defines this perception in terms of *person-organization fit*. Combining signal theory and perceived fit with an organization, students being recruited into agricultural education teacher programs will use the signals presented through college websites, posters, brochures, their teachers and contact with professors at the agriculture colleges to determine whether or not teaching agriculture is a good fit as a career, and whether a particular college program is a good fit for that student. Parents of these students are also likely to determine whether the college program will be a good fit for their child based on these signals.

The many signals sent out by the agriculture colleges present an image to the potential students and their parents. In studies that examine intent to apply for jobs, organizational image and recruiter image have both been found to play a role in whether the candidate does indeed apply (Stevens, Dragoni, & Collins, 2001). Ryan, Horvath and Kriska (2005), found that given an overall favorable image of an organization, both race and gender of the recruiter were related to intentions to apply.

While none of these theories have been examined within the agricultural education literature, it seems likely that the combination of signal theory, image theory and person-organization fit theory could contribute to our

understanding of the ongoing recruitment problem in agriculture education.

Methods

This was a qualitative research study using a semi-structured interview protocol and theory driven analysis of data collected from two focus groups. The population for this study consisted of current secondary agricultural education teachers in southern Illinois who were attending a professional development conference at Southern Illinois University-Carbondale (SIUC) in June of 2012. These teachers had accompanied their secondary students to campus; the students engaged in a conference on cooperatives, while the teachers attended professional development sessions. Students, teachers, faculty and administrators from SIUC shared lunch and other activities over two days. All current secondary agricultural education teachers in attendance were asked to participate in the study and all 23 chose to participate for a 100% participation rate.

The researchers (one from agricultural education and one from human resources management) were given two 45 minute sessions during the conference to meet with the agricultural education teachers between professional development sessions. Each participant completed a consent form and a demographic survey prior to entering the conference room where the focus group interviews were conducted. While the first focus group of twelve participated in an interview session, the second group of eleven participated in a professional development session. After 45 minutes, the groups switched activities. A research assistant working in both sessions assigned a code to each participant, took notes, and made an audio recording of each focus group session. The interviewing researcher also made an audio recording and took notes during the interview sessions.

The semi-structured interview questions were developed based on a literature review of the theories used as the conceptual basis for this study, the research on issues of recruiting for agriculture teacher education and on reports in the media of the impact of the recent recession on various careers. The semi-structured interview protocol was pilot tested on graduate students who have taught business education at the secondary level. Minor adjustments were made to the interview protocol based on this pilot test.

During each of the focus group sessions, questions from the semi-structured interview protocol were asked and then the researcher conducting the interviews probed for additional information based on responses received. The researcher from human resource management conducted the interviews since she had extensive experience in conducting research interviews and in qualitative research methods. In addition, she had no preconceived biases regarding agricultural education and therefore was likely less biased regarding questions, responses and probing questions that were asked. Once the two focus group interview sessions were completed, the research assistant and both researchers met to discuss topics covered in the sessions and to fill in any gaps in notes taken.

The audio recordings of the focus group sessions were later transcribed. Transcriptions were compared to the audio recordings then compared to notes taken during the two interview sessions, and any discrepancies were resolved through member checking with the participants involved in the focus group interviews to ensure trustworthiness of the study (Boyatzis, 1998).

Trustworthiness is generally more appropriate than reliability and validity in qualitative studies (Rubin & Rubin, 2011). Lincoln and Guba (2007) define trustworthiness as including four criteria: credibility, transferability, dependability and confirmability. Using the Lincoln and Guba guidelines, in this study, credibility and confirmability were established through familiarity with the group to be studied by the agriculture teacher education researcher and the research assistant, member checking of transcripts, and triangulation of notes, recordings of focus group interviews and observations of participants. Shenton (2004) suggests that transferability can be established through thick description of the participants, the interview situation, locations, the phenomenon to be studied and the situation of the study. In this way, other researchers can determine whether this study has transferability to their research or practice situation. All are addressed in the Findings section of this paper. Shenton (2004) further suggests

that dependability is more appropriate in qualitative research, as the findings are not generalizable rather, "the processes within the study should be reported in detail, thereby enabling a future researcher to repeat the work," (p. 71).

Once the transcriptions were finalized, the researchers independently examined the transcripts for themes that relate to the signaling theory, image theory and fit theory. Initial themes were next reviewed by the two researchers working together and after discussion, similar themes were combined until five general themes were identified that fit the data collected. Two additional themes appeared to be connected to local issues and are addressed separately in the findings.

Findings

Demographics

The professional development conference has been held for numerous years and the group of teachers in attendance knew each other and the agricultural education researcher on this study well. Many were students together at area colleges and some were the high school teachers of the younger members of this group. The population was 100% white and 21.7% female. The population averaged fourteen years of teaching experience overall, with a range from 40 years teaching experience to those who had just graduated and had not yet begun teaching. Some of the population in this study taught in other areas of career and technical education as well as agricultural education. The average length of time teaching agricultural education was 13.5 years. The ages of the population ranged from 23 to 66. All 23 of the participants taught agricultural education in Illinois District #5 or were scheduled to begin teaching in Illinois during the 2012-13 academic year. Our population was not diverse; however this is not uncommon in agricultural education as there have been ongoing issues with recruiting minority students into agricultural education teacher programs (Dyer & Breja, 2003).

Themes

Five general themes were identified in the data collected from the two focus groups. Since this study utilized an intact population, results from both focus groups were combined and treated as one case study. Further, both groups were remarkably similar in what they saw as barriers to recruiting high school students into a career as an agricultural education teacher and what they saw as potential solutions to those barriers. The combined data yielded the following five general themes: 1) time, 2) the economy, 3) family, 4) technology and 5) image. Each will be discussed in terms of how the participants described them as both barriers and solutions, and then each will be related to the three theories that form the conceptual framework of this study and the extant literature on recruiting.

Barriers to Recruiting

Time. Our population mentioned two primary factors relating to time: 1) agricultural education teachers spend more time outside the classroom with students than other teachers; and 2) it can take more time than it should to obtain certification to teach agricultural education. Agricultural education teachers spend time with students on FFA activities, attending contests, and accompanying students to various programs on college campuses. As a result, students see the time commitment required of agricultural education teachers as a negative signal and may not want a career that consumes so much of their time. As one male participant mentioned, "I probably spend an extra 600-700 hours outside of class with my students each year." Others concurred and indicated that they all spend more time with their students than is strictly required so that students can participate in as many functions as possible. Another male participant indicated that "agricultural education is not a nine-month job." One male participant indicated that the time commitment of an agricultural education teacher "makes it hard for a woman to work in this field."

Within the high school, the time commitment required for students in agricultural education is problematic. Our participants explained

that core curriculum class requirements sometimes make it difficult for students to enroll in agricultural education courses. Further, agricultural education students want to participate in such high school activities as sports and band, and often must hold jobs that compete with FFA and other agricultural education activities. As a result of this time conflict, some students end up leaving agricultural education programs in high school. The difficulties in enrolling in agricultural education courses, along with the perception that their teachers must spend a great deal of extra time with students, create a barrier to recruitment of students into colleges of agriculture according to our participants.

The participants also stated that it can be difficult for post-secondary students to complete their college programs and obtain certification within four years. Some of the participants shared that they had first attended a two-year community college before transferring to a four-year university. When courses are difficult to transfer, the time required at the four-year institution increases. Further, participants brought up issues of testing for certification as time barriers. One participant stated that (college) "academic advisors get a commission for keeping students in school extra semesters" which produced laughter among the group, but also many nodding heads, indicating general agreement. Several mentioned that "there are too many hoops that students have to jump through" to obtain a college degree and certification in teaching agricultural education.

The Economy. Questions about the affect of the recent recession were not asked until one participant brought up the subject of budgets and money in the schools. He stated, "We didn't hear about budgets before 2007. From 2008 to 2012, the primary concern in schools is the money." When follow up questions were asked, all of the participants agreed that the economy has had an impact on the ability to recruit students into agricultural education teacher programs. As one man stated, "The recession is not the only role, but it plays a big role."

One of the female participants attempted to bring up the issue of salary, but was drowned out by several men who mentioned that the state's plans to reduce salaries and pensions "make it hard to counsel students into this field." Instead, our participants report that school counselors "advise students toward more lucrative fields." While this is not a new issue, the interviewees indicated that the issue has been exacerbated by the recent recession. Another male participant explained that "the time required and the pay we get aren't close." Yet another man stated that "it's hard to push kids into an area that's going to cause grief." It was clear that the 23 agricultural education teachers included in this study feel that current economic conditions have sent very negative signals to students that will make it more difficult to recruit quality students into agricultural education teacher programs.

Several participants brought up issues of closing agricultural education programs in secondary schools due to budget cuts. Although all agreed that there is currently a shortage of teachers in the field, there was a general perception that secondary agricultural education programs are currently at risk and that Illinois Senate Bill #7, Performance Evaluation Reform Act (PERA) which instituted a new evaluation system "will make it much easier for administrators to get rid of them" (agriculture programs).

Family. Despite the time and money issues, our participants are passionate about their jobs and the students they serve. After listening to general comments about how much they care about their students, the interviewing researcher suggested that the participants seemed to have a strong sense of community and the emphatic response was "no, we're a family!" One male participant mentioned that "we spend more time and know our kids better" than other teachers. A female participant stated that because of FFA activities agricultural education teachers "spend lots of car time" with students. This leads to more sharing and understanding of students' needs. However, she also clarified that since so many students now have cell phones, less conversation currently takes place on these FFA trips. Other participants agreed that technology has reduced interactions; however students are "still treated as my kids." One man indicated that agriculture educators serve as role models for students in the classroom and out. "We're with these students before school, at lunch and after school." Several participants indicated that the success of their students is what keeps them

teaching. There was general agreement that at the secondary level, students develop leadership and character in agricultural education programs.

The participants also indicated that parents believe that these agricultural education teachers support their children *like family* and that the teachers have their children's best interests at heart. However, once students begin to look at college agriculture programs, that "feeling of family is lost," according to one female participant. The same female participant further explained that "we need to treat our college recruits the same way that we treat our high school students." General discussion suggested that students and their parents are looking for indicators that the college is going to treat their child like family and provide strong support to their child throughout the college program. Unfortunately, our group of participants felt that at most colleges of agriculture, this type of support and caring is missing. Participants reported that at recruiting functions, professors often do not make an appearance, let alone take the time to learn the names of students and their parents.

Communication among this *family* of teachers, students and parents is seen as critical to the success of students. Participants indicate that communication is often missing at the college level. The lack of communication begins with college professors failing to make visits to high school programs and continues with a lack of FFA contests and activities on campuses, little advisement on college programs, and little communication regarding student teaching assignments once they are enrolled. As one man stated, "getting kids on campus is not enough." Another agreed, "You have to build relationships with these students if you want them to come to your college." Yet another emphatically stated that "passion is lacking in the university systems."

Technology. Our participants generally agreed that colleges of agriculture are not using technology effectively to reach students in recruiting efforts. While all universities in Illinois have a web page for their agricultural education programs, the participants believed that most are not kept up to date and, according to our participants, none were interactive or interesting to secondary students. "The web page doesn't really do anything," mentioned one woman and most of the group agreed. Colleges of agriculture often use email to contact potential recruits; our participants felt that their students would not even read these communications. Our participants also perceived that professors of agriculture lack the technology skills needed to reach out to secondary students. "Facebook is what they use. Period." And, while colleges of agriculture have Facebook pages, most are not frequently used, nor do they provide the types of information students and parents are looking for according to our participants. Several participants mentioned that texting and Tweeting would be more effective for disseminating information to high school students. "They would read those" one of the younger male participants stated, and all agreed.

Image. Our participants indicated that agriculture and agricultural education have an image problem. Worse, due to the budget issues most states now face, teaching in general now has a serious image problem as well, according to our participants. Finally, the group felt that some colleges of agriculture have specific image problems.

As one man explained, "there is a problem of consumer versus the reality of what agriculture really is. Consumers don't know what ag is; only 2% of the population is in agriculture now and we've lost the identity of agriculture as important." Several others concurred and further explained "more kids are from towns now, and farms are seen as second class people." "Parents, counselors, and other people are advising students out of the field. They say that teaching ag, there's no need for it anymore." One man explained that "we aren't a rural society anymore and the work ethic has changed. Money is more of a priority than working for it."

Perhaps equally troubling, the group felt "the image of teachers in general – kids see the crap we have to put up with. Bad kids. All the extra crap we have to do. Why would they want to get into it?" Another mentioned that "(name withheld) touched on it – going into other programs – it's easier and there's more job security and fewer hoops." Still another mentioned that "parents don't want their kids to teach – they push them into higher paying careers." Still others suggested that it takes too much work to

obtain a teaching degree, that there seems to be a trend among students to have less commitment to education, and that there is a decrease in the general work ethic of high school students. "They want the money, not the work," was one comment that seemed to sum up the general feelings of the group. One of the women stated "the education climate isn't good right now. Declining pensions and salaries have led to a negative climate." One of the men expanded on this saying "increasing retirement age requirements, reduced compensation and pension systems in general are hurting education right now." Another woman mentioned "teaching used to be a great profession, but now you get much less." Further, she explained "teaching used to be a transition from college. Now, it's hard to get into teaching- it takes more money to get in for less pay after."

Our participants felt that most colleges of agriculture in the state have an image problem and that programs have declined over the past 20 years. Fewer professors working in agriculture colleges have led to fewer interactions with high school programs. In addition, our participants felt that "faculty (at universities) need to take a more active role with ag ed teachers." However, there was general agreement that there are some programs doing this. One woman mentioned that "job placement stats should be communicated and you should get recent grads to communicate with those thinking about ag ed careers." Several participants mentioned that current college programs "don't prepare you. We need more professional development in the programs." Another mentioned that while in college "student teachers need better advisement" to be successful once in the field.

Solutions to Recruiting Barriers

Fortunately, our participants had numerous ideas as to how these recruitment barriers could be overcome. This section addresses those ideas.

Time. Although the participants indicated that they spend a great deal of time with their students, they didn't feel that college professors spent enough time with potential recruits or with the secondary teachers. As one participant stated, "does (name withheld) want my students? They've made no effort to get to know me." One woman stated that, "professors should come to the schools more than one time per year. It's hard to get someone to come." Another woman indicated "getting kids on campus is not enough." This group of secondary teachers felt that professors need to spend *time* in the high schools with the students and that students should spend more *time* on college campuses getting to know the professors and the programs available. "You have to make a presence. At FFA events, professors should get involved. The high school teachers are here, the professors are not," one man explained. Overall, the participants felt that spending time on programs that bring kids to campus would be time well spent in terms of recruiting students into agriculture education teacher programs. One man suggested that "other ag professors should be involved, not just ag ed." Another suggested "the university should give them (professors) time" (for these events).

The Economy. Although there are serious issues with the economy, the participants felt strongly that teaching is still a good career and that the negatives of the economy can be overcome in recruiting. First, they suggested that colleges of agriculture do a better job of letting recruits know that there are many agricultural education jobs available and that employment upon graduation is likely. "Demand is there," one of the participants stated. Another added "job placement stats should be communicated." And, in spite of the cutbacks states are considering, the participants felt that "teaching is still a good profession" that "pays pretty well." Our participants believed this information needs to be disseminated to students and their parents. Finally, one woman mentioned that "tuition waivers, scholarships – even little ones would help."

Family. Our participants were proud of the family atmosphere that agricultural education programs have in secondary schools. They believed that this family atmosphere can and should be continued in college programs. "You (colleges) need to treat students like we treat our high school students," one woman stated. "You have to get the parents" another indicated. All agreed that parents want the same passionate care for their children during their college pro-

grams that high school programs provide. Colleges of agriculture should spend time getting to know the parents, as well as the students, through campus programs and time spent visiting high school programs, according to our participants.

Technology. Although all colleges of agriculture have a web site, the participants suggested that important information needs to be more accessible, for example, putting job placement rates on websites or on Facebook so that students and parents can readily access them. Our population also suggests that college faculty spend time tweeting and texting information to high school students. "Tweet and texts would be more effective," than using email to disseminate information.

In addition, our participants felt that websites need to be easier to use and more interactive. Static, out of date information is not attractive to high school students. The current "web page doesn't really do anything," perception was prevalent in our group. Although funds are tight at Illinois universities, time and money should be spent to improve websites and other uses of technology in recruiting students to agriculture teacher education programs.

Image. Participants had fewer ideas to remedy the image problems previously expressed. Some felt that if universities spend more time with high school students and teachers, use more current technologies, and treat potential students more like family, many of the image problems colleges of agriculture have would improve. Still another indicated that "as the economy improves, teaching as a career will look better." Still another indicated that, "they don't have a clue how much money is in ag right now." This group of 23 agricultural education teachers agreed that if high school students and parents understood how much money there is in the industry, agricultural education as a career might be more attractive. Another man suggested that "you have to educate your counselors" so that students and parents will have a better understanding of agricultural education as a career choice. One of the women reiterated that we need to "get recent grads to communicate with those thinking about ag ed careers" to improve the image that there is a real need for agricultural education teachers in secondary schools.

Perceived Local Issues. Our population agr-eed some changes to the Illinois agriculture teacher education curriculum are necessary. Comments such as "the program covers irrelevant topics," "IEA, NEA and things like that are never covered," and "don't prepare them for student teaching" are real concerns for these participants. "Right now, the program doesn't prepare you. We need professional development extras," seemed to sum up the group's feelings on current curricula.

A related but separate theme our participants brought up was the articulation from junior colleges to four-year colleges. "The hoops of getting credits transferred wouldn't be so bad if advisors at universities would help more," explained one woman. This issue is not unique to agricultural education in Illinois, and many universities are working to make the transfer process easier. However, current difficulties with articulation are a negative signal to potential students.

Discussion

Signal Theory, Image Theory and Person-Organization Fit Theory and Recruiting for Colleges of Agriculture and Teacher Education Programs

Our five themes represent signals that 23 current secondary agricultural education teachers in District #5 view as either negative or positive signals being sent to prospective college students. Those negative signals were reported as barriers to recruiting students into agriculture teacher education programs, while the positive signals were reported as solutions to recruiting issues. These signals create an image of the profession and the colleges these high school graduates consider attending. Based on these signals, and the images created by the signals, potential students determine whether or not they are a good fit for a particular college program. All three of the theories combine to contribute to students' decisions about college program enrollments.

Time. Similar to the findings of Dyer and Breja (2003), our participants indicated that time requirements are an important signal for students considering agriculture teacher education ca-

reers. Students often have to juggle agricultural education activities with other high school courses and activities and this can make recruiting students difficult. Dyer and Breja also found that increased high school graduation requirements have impacted the time that students can spend on agricultural education activities. Our participants felt that these time issues were serious deterrents to recruiting high school students into the field.

While Park and Rudd (2005) found that spending more time with students contributed to students' likelihood of choosing agricultural education as a major, our participants expressed mixed feelings about this aspect of time. While many participants in the current study felt that spending more time would improve recruiting, equally as many felt that the signal being sent could be negative, as students would not want to commit so many hours to their careers. A few felt this would be especially problematic for recruiting women into the field as time commitments would interfere with family life.

While our participants felt that articulation from community colleges to four-year agriculture teacher education programs was a problem, they did not express this in terms of time. However, articulation issues do lead to longer college graduation timeframes (Aragon & Rios-Perez, 2006) and this is a negative signal for many students.

In business situations, organization-person fit theory suggests that inside information about an organization can often assist an applicant in determining whether or not they would be a good fit with the organization (Cable & Turban, 2001). For potential recruits in agriculture teacher education, inside information can be a double edged sword. Seeing their own high school teachers have to spend extra time on the job may allow potential recruits to determine that the time commitment required would not be a good fit for them. On the other hand, the access potential recruits have to this insider information may mean that for those who do see a fit, they will be more likely to remain in the field as they already know and understand the time commitment required.

The Economy. While other research has not specifically addressed the impact of the recent economic downturn on recruiting efforts in agricultural education, our participants had numerous concerns about changes to the field that have occurred as a result of Illinois state budget woes. Perceptions that longer time to retirement, reduced pensions, program evaluations, and salaries are all signals being sent to parents and potential students were viewed as problematic signals for those in agriculture teacher education in Illinois. It is likely that this situation exists in many other states as well. Further, our participants discussed issues of fit at length and perceived that many of the signals sent regarding such things as career availability, pay and retirement are responsible for seeing agriculture teacher education as a poor fit for many students.

Image. Finally, our participants specifically addressed issues of image and how signals currently seen by secondary students present a poor image of teaching agricultural education and teaching, in general, as a career choice. Many of these negative signals were a result of the recent economic downturn discussed above, however, teaching as a profession in general was seen as a negative signal and a poor fit for many potential recruits. While our population believed that an improving economy might repair some of these negative perceptions, the idea that "education is under attack" needs to be addressed on a national level.

Technology. Use of technology by the colleges of agriculture in Illinois was seen as "woefully inadequate" and a negative signal to potential recruits. Universities in general struggle to utilize web sites for recruitment purposes and often take an "egocentric" approach to the design of the web site (Mentz & Whiteside, 2003, pg. 11). A student attempting to locate information on any college website should not have to first figure out the organization's structure; many colleges assume that students will know where to go to locate the information they need. To improve signals sent to potential recruits, design of the web should be intuitive and built with redundancies so that if the student does not locate the appropriate page where they think it should be, they can still find the information required. In addition, a recent survey found that nearly 19 million people in rural areas of the U.S.A. do not have broadband access to the Internet (FCC, 2012). Design of web sites

should consider that many rural recruits may have dial-up access only.

Our participants felt that technologies that high school students prefer to use should also be investigated more as tools for recruitment. In 1998, Schmidt reported on a program at Virginia Polytechnic Institute and State University that was implemented in the Wood Science and Technology Department. This program utilized a Students Recruiting Students program, among others, that successfully increased the number of students in their programs. High school students were sent a card from a graduate student recruitment coordinator. Students who returned the cards were contacted by the graduate student recruiter who was trained to coordinate all aspects of the recruiting process for the high school student. Although the technology has changed since this program report was published, the idea of using graduate students to contact high school students through texting and tweeting could be a way to improve recruitment results. The signals this type of a program would generate might address the technology barriers, the image barriers and the family barrier.

Conclusions and Recommendations

The population of 23 current agricultural education teachers in southern Illinois interviewed in this study suggested multiple barriers to recruitment of quality students for agriculture teacher education programs as well as potential solutions. These barriers were consistent with issues found in previously reported studies; however, the recent economic downturn has exacerbated some issues and created some additional issues. Like the Dyer and Breja (2003) study, this project found that issues with time, lack of support from counselors, the image of agriculture and increased graduation requirements are all factors that reduce the number of students recruited into agriculture teacher education programs. Our population also felt that the image of agriculture and agriculture education in particular, has been negatively impacted by the recent economic downturn.

Reis and Kahler (1997) found that parents and agriculture teachers play the biggest role in determining whether or not students enroll in agriculture programs at college. Our participants agreed and felt that agriculture colleges need to send more positive signals to parents in terms of the career prospects for their children. Wildman and Torres (2001) found that previous experience in agriculture was the determining factor in why college students enrolled in agriculture programs. Our participants felt that this experience with agricultural education at the high school level is critical, but is being pushed aside due to the demands of work, sports, and other activities that preclude participation in agriculture programs.

The results of this study indicate that Colleges of Agriculture must find a way to repair the image of agriculture in general and agricultural education in particular. Improving access to professors on campuses, sharing job placement statistics with parents and school counselors, and using newer technologies may help send more positive signals to those who have the most influence on whether or not students enroll in agricultural education programs.

Although economic woes on all college campuses reduce the likelihood that more professors will be hired so that more time can be spent on recruiting, there are other ways that agricultural education professors can become more visible to potential recruits. Sharing information and projects with high school teachers is one way that agricultural education programs can become more visible in the high schools. In addition, programs such as the Virginia Tech Wood Sciences program mentioned above can improve relations and visibility with high school programs while not requiring more of the professors' time. Better designed, interactive web pages can also provide *insider information* that can then be used by potential recruits and their parents to make decisions regarding fit with the program.

Implications

A cause of concern for Agricultural Education and other CTE programs stems from an ongoing shortage of secondary school teachers. Unless steps are taken to recruit students into teaching licensure programs at the university, secondary programs of agricultural education will close and the decline of enrollment will continue. This will, in turn, impact a workforce

that has been decimated by the 2008-2012 national economic down turn. And, without newly trained personnel for entry level positions upon graduation from high school, an economic recovery for our country will be stymied.

Further, unless recruitment efforts can bolster the numbers in the teacher education programs for agriculture, these programs will be targeted for elimination by college administrators that are seeking to balance budgets through downsizing. With the elimination of teacher education programs in agricultural education, not only will numbers of secondary agricultural education teachers decrease, there will be no replacements for the large numbers of Baby Boomer teachers who are currently retiring. Again, with no newly trained replacements, secondary agricultural education programs will be closed. The workforce in agriculture needs will again be unmet, and economic recovery in the United States will be negatively impacted.

Barriers to the successful recruitment of quality students into teacher education programs for agricultural education have been identified in this study and solutions to overcome these barriers for the purpose of student recruitment have been suggested. It is time to implement those solutions which will most effectively attract students into a fulfilling career path for Agricultural Education. A career path that, if selected by sufficient numbers, will result in secondary school classrooms which will prepare the next generation of agricultural workers and avert further economic decline in the United States.

Limitations and Further Research

This study utilized a small available population of 23 current agricultural education teachers from one district in Illinois. While participation was 100%, this qualitative study is limited in the reach and, potentially, the themes that impact recruiting high school students into agricultural education teacher programs. Further research is required that explores a larger population of both agricultural education teachers as well as research that examines the potential high school student recruits.

In addition, the population included in this study was not diverse. Image theory postulates that given an overall positive impression of an organization, the race and gender of the recruiter has an influence on whether recruits choose that organization. Further research on how to increase diversity in the field of agricultural education is required to address this issue.

References

Aragon, S. R., & Rios-Perez, M. (2006). Increasing retention and success of students of color at research-extensive universities. *New Directions for Student Services 114*(Summer, 2006), 81-91. DOI: 10.1002/ss.209

Beach, L. R. (1990). *Image theory: Decision making in personal and organizational contexts.* Chichester, UK: Wiley.

Braddy, P. W., Meade, A. W., & Kroustalis, C. M. (2008). Online recruiting: The effects of organizational familiarity, website usability, and website attractiveness on viewers' impressions of organizations. *Computers in Human Behavior 24*(2008), 2992-3001. DOI: org/10.1016.j.chb.2008.05.005

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage Publications.

Cable, D. M. & Judge, T. A. (1996). Person-organization fit, job choice decisions and organizational entry. *Organization Behavior and Human Decision Processes, 67* (3), 294-311. DOI: 10.1006/obhd.1996.0081

Cable, D. M. & Turban, D. B. (2001). Establishing the dimensions, sources and value of job seekers employer knowledge during recruitment. In G. R. Ferris (Ed.) *Research in Personnel and Human Resources Management* 20, 115-163. Greenwhich, CT: JAI Press.

Camp, W. G. (2000). *A national study of the supply and demand for teachers of agricultural education in 1999-2001*. Blacksburg, VA: Virginia Polytechnic Institute and State University.

Dyer, J. E. & Breja, L. M. (2003). Problems in recruiting students into agricultural education programs: A Delphi study of agriculture teacher perceptions. *Journal of Agricultural Education 44*(2), 75-85. DOI: 10.5032/jae.2003.02075

Federal Communications Commission (2012). *Tentative Findings on Accessibility of Communications Technologies.* http://www.fcc.gov/document/tentative-findings-accessibility-ommunications-technologies

Kantrovich, A. J. (2007). *A national study of the supply and demand for teachers of agricultural education from 2004 – 2006*. Morehead, KY: Morehead State University.

Lawver, R. G. & Torres, R. M. (2012). An analysis of post-secondary agricultural education students' choice to teach. *Journal of Agricultural Education 53*(2), 28-42. DOI: 10.5032/jae.2012.02028

Lincoln, S. Y., & Guba, E. G. (2007, Summer). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Evaluation, 114*, 15-25. DOI10.1002/ev.223

Mentz, G. & Whiteside, R. (2003). Internet college recruiting and marketing: Web promotion, techniques and law. *Journal of College Admission*, 181, 10-17.

Nebraska State Education Association. (2011). *National Teacher Shortage*. Retrieved from http://www.nsea.org/policy/salaries/index.htm

Park, T. D. & Rudd, R. (2005). A description of the characteristics attributed to students' decisions to teach agriscience. *Journal of Agricultural Education 46*(3), 82-94. DOI: 10.5032/jae.2005.03082

Reis, R. & Kahler, A. A. (1997). Factors influencing enrollment in agricultural education programs as expressed by Iowa secondary agricultural education students. *Journal of Agricultural Education 38*(2), 38-48. DOI: 10.5032/jae.1997.02038

Rubin, H. J. & Rubin, I. S. (2011). *Qualitative interviewing: The art of hearing data. 3rd Ed.* Thousand Oaks, CA: Sage Publishing.

Ryan, A. M., Horvath, M. & Kriska, S. D. (2005). The role of recruiting source informativeness and organizational perceptions in decision to apply. *International Journal of Selection and Assessment 12*(4), 235-249. DOI: 10.1111/j.1468-2389.2005.00321.x

Rynes, S. L., Bretz, R. D. J., & Gerhart, B. (1991). The importance of recruitment in job choice: A different way of looking. *Personnel Psychology, 44*(3), 487-521. DOI: 10.1111/j.1744-6570.1991.tb02402.x

Schmidt, R. G. (1998). Students recruiting students at Virginia Tech. *Forest Products Journal 48*(3), 12-17.

Schneider, B. (1987). The people make the place. *Personnel Psychology 40*(3), 437-453. DOI: 10.1111/j.1744-6570.1987.tb00609.x

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63-72. Retrieved from http://iospress.metapress.com.proxy.lib.siu.edu/content/3ccttm2g59cklapx/?p=1dc0 853516d0424baBoard Member #247a00c250f29&pi=0

Spence, A. (1973). Job marketing signaling. *Quarterly Journal of Economics 87*(3), 355-379.

Stevens, C. K., Dragoni, L, & Collins, C. J. (2001). *Familiarity, organizational images, and perceived fit as antecedents to the application decisions of new graduates.* Presented at the 16th Annual conference of the Society for Industrial Organizational Psychology, San Diego, CA.

Wildman, M. & Torres, R. M. (2001). Factors identified when selecting a major in agriculture. *Journal of Agricultural Education 42*(2), 46-55. DOI: 10.5032/jae.2001.02046

Jennifer Calvin is an assistant professor of human resources in the Workforce Education and Development department at Southern Illinois University, Carbondale, 217C Pulliam Hall, 475 Clocktower Drive, Carbondale, IL. 62901, calvin15@siu.edu

Seburn L. Pense is an associate professor of agricultural education in the Plant, Soil and Agriculture Systems department at Southern Illinois University, Carbondale, 154A, Agriculture Building, 1205 Lincoln Drive, Carbondale, IL. 62901, sebpense@siu.edu