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"The Lost Boys": A Case Study of Male Agricultural Education Teacher Certification Students Regarding a Change of Career Trajectories

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Abstract

Agriculture teacher demand is at an all-time high due to program growth, expansion, retirements, and new program openings. However, the 2021 National Agricultural Education Supply and Demand Study indicates a shortage of highly qualified school-based ag educators. A particularly concerning trend is the decrease in males within agriculture teacher preparation programs; license-eligible ag teacher educator program completers were 76% female and 24% male in 2021. Utilizing Social Cognitive Career Theory (SCCT) as a theoretical framework, this case study describes male undergraduate students' decisions to depart from the agricultural education- teacher certification track at the University of Missouri. Findings suggest that male teacher certification students who leave the program a). sense they "don't fit in;" b). realize their interests do not fully align with teaching; c). feel concerns about self-efficacy; d). experience new opportunities in agriculture; and e). acknowledge financial concerns. *Researchers recommend further research into the definitions and support systems of social value and influencers for male agricultural education students and their relation to self-confidence. The profession should carefully consider meaningful undergraduate employment opportunities and content mentors to support teacher certification students' opportunities to build knowledge and experience in the classroom earlier in their teacher preparation program. Researchers propose a refocus of agricultural educator preparation programs as a technical degree in agriculture and suggest structural adjustments to increase technically skilled male students in the teacher preparation pipeline.*

Introduction

The COVID pandemic exposed the cracks within an already stressed educational system. Teachers responded to challenges in alternative instruction, changing obligations, and shifting work and home routines, at the expense of their own well-being and job satisfaction (McKim & Sorensen, 2020). Persistent and unaddressed issues with teacher retention, low pay, tough school environments hurting teacher morale, and lack of support and professional development have created a "perfect storm" of teacher shortage (Garcia & Weiss, 2019). Recent studies have highlighted a growing concern for public education regarding the shortage of qualified teachers (Sutcher, 2019; Darling-Hammond & Carver-Thomas, 2016).

Nearly every state is reporting teacher shortages in certain subject areas, and many are hiring teachers who are not fully certified (Sutcher et al., 2019). Agriculture teacher demand is at an all-time high due to program growth, expansion, retirements, and new program openings. In 2018, there were over 1,000 agricultural education positions left unfilled (Deimler et al., 2019). In addition to increased demand, the

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supply of teachers is dwindling. Since 2010, nationwide enrollment in teacher preparation programs has declined by more than 1/3, and the number of students completing teacher preparation has declined 28% (National Center for Education Statistics, 2019). Missouri teacher preparation experienced a decline of nearly 35% in the number of preservice teachers in the past ten years. In Missouri, only 55% (2,095/3,815) of 2022-2023 first year teachers above the elementary level were fully certified. Of those certified, one in four was certified out-of-Missouri, presuming through online programs (Katnik & Fridley, 2023).

Our biggest challenge to the agricultural education profession is preparing an adequate supply of high quality, appropriately certified educators (Eck & Edwards, 2019). Although teacher educators are facing unique challenges post-COVID, the teacher shortage is not a new issue: Teacher shortages in school-based agricultural education have existed since the Smith-Hughes Act was passed in 1917 (Hillison, 1987; Ingram et al., 2018). The 2021 National Agricultural Education Supply and Demand Study (Smith et al.) indicated a shortage of highly qualified school-based ag educators. One in three new agriculture teachers were entering the profession as uncertified or had not completed a traditional certification program (Smith et al., 2022). Nationwide, only 50 to 60% of graduates who were certified to teach agriculture chose to teach in their first year following graduation (Eck & Edwards, 2019).

An individual's choice to pursue a career in agricultural education is often rooted in their experiences in secondary agriculture education, their FFA/4-H experience, and on the advice of their advisors (Rice & Kitchel, 2015, Hendren & Tummons, 2017, Lawver & Torres, 2011, Pozderac et al., 2022, Saucier et al., 2010). Preservice teachers attribute their career choice to the support of the agriculture teacher and parents, a passion for agriculture, alignment with personal values/intrinsic value, and the influence of their agriculture teacher, FFA participation, self-efficacy, and opportunities opened through their agriculture experiences (Ingram et al., 2018, Solomonson et al., 2019). Preservice teachers view the education field as an enjoyable career; they seek opportunity to help in youth development and work with youth, wish to impact and serve others, seek advancement opportunities, salary, and benefits, and view teaching as a calling (Elfers et al., 2008; Harms & Knobloch, 2005; Kyriacou & Coulthard, 2000; Lawver & Torres, 2012; Thieman et al., 2014).

Preservice teachers identified potential concerns in choosing a teaching career including low salaries, long hours, self-adequacy, personal injury, and student discipline (Lawver & Torres, 2011, Paulsen et al., 2015, Stair et al., 2012, Tummons et al., 2017). Preservice teachers watch as their trusted mentors publicly struggle with unmet expectations and incompatibility with teaching agriculture and raising a family (Solomonson et al., 2019). Thieman et al. (2016) found that as boys progress through high school, they become less likely to consider ag teaching careers. Preservice agriculture teachers have an intimate and personal preview of the joys and discomforts associated with their career choice in Agricultural Education.

A particularly concerning trend is the decrease in males within agriculture teacher preparation programs. Between 2010 and 2019, male enrollment in teacher preparation programs declined by 44 %, and in Missouri, 50% fewer males enrolled in teacher preparation programs during this time (Sutcher et al., 2019). Nationwide, license-eligible ag teacher educator program completers were 76% female and 24% male in 2021 (Smith et al. 2022). The discrepancy in male matriculants in teacher preparation are beginning to appear in the teacher demographics. The current teacher workforce is 77% female (Sutcher et al., 2019). In 2009, 71.0% of Missouri agriculture teachers were male; whereas in 2023, males make up 51.5% of the teacher population (Saucier et al., 2010; Dietzschold, 2023). Among veteran agriculture teachers with more than 20 years of experience, male teachers in Missouri outnumber females at a rate of 3:1. In stark contrast, female teachers with 5 or fewer years of experience outnumber their male counterparts by over a 2:1 margin (Dietzschold, 2023). One in four agriculture teachers in Missouri are female teachers with five or less years of experience, suggesting a shift in the demographics of the teachers within the profession.

While the shortage of male teachers is a recent phenomenon in Agricultural Education, the problem is more well-known in other subject disciplines. Studies suggest that the lack of male teachers may have adverse effects on male students' learning and development (Cushman, 2007; Deese, 2017; Martino, 2009; Moreau & Brownhill, 2017). Additionally, parents and educators believe that male teachers are needed to serve as disciplinarians (Carrington & McPhee, 2008; Moreau & Brownhill, 2017). School teacher has traditionally been considered a role for females, yet the demographics for agriculture teachers (and history of the FFA as a male organization) suggest a high proportion of male teacher influence. Contemporary discourse suggests the benefits of attempting to match the demographics of the faculty to those within their community (Cushman, 2007; Wasden et al., 2022).

The proportion of male students enrolling in teacher certification programs and completing their teaching certification continues to decrease. Based on the call for more research to "best determine a course of action" (Smith et al., 2017, p.3), researchers identified a gap in the literature regarding why so few male Agricultural Education majors complete their certification program to become an agriculture teacher. Researchers conducted a qualitative, descriptive case study to gain understanding about why males who enter college with the goal of becoming an agriculture teacher do not complete the teacher certification programs. This research can be used to consider ways to provide additional support for males working toward the goal of becoming an agriculture teacher.

Theoretical Framework

Social cognitive career theory (SCCT) posits individuals are products of their surroundings, and their surroundings are products of their interactions. SCCT serves as the theoretical framework for this research. The basic building blocks of SCCT are self-efficacy beliefs, outcome expectations, and goals (Lent et al., 1994). Self-efficacy beliefs refer to people's thoughts about their capabilities to plan and execute necessary steps to reach their goals. Outcome expectations refer to perceived outcomes or consequences of an individual's behavior. Goals help organize and direct behaviors as individuals make progress and are influenced by people's self-efficacy beliefs and outcome expectations.

Specifically, we focused on SCCT's Choice Model (Lent, 2013). The SCCT choice model purports that making a career choice is not a one-time occurrence, but an ongoing set of processes. Over time, certain choices become more appealing due to personal beliefs about self-efficacy, perceived outcomes, and personal goals. Individuals tend to pursue outcomes they perceive as achievable and interesting. The three components essential to making a career choice include a). expression of a primary choice to enter a field; b). taking actions to pursue that goal; and c). performance experiences, or the feedback loop. The choice process is heavily influenced by an individual's environment and opportunities. People with similar backgrounds, interests, belief systems, and outcome expectations tend to select similar outcomes. Social cognitive career theory (SCCT) helped the research team "fence in" our case (Merriam, 2009), guided our interview questions, and helped us filter the most relevant information throughout the data analysis and interpretation process.

Research is needed to understand why males who have been recruited into agricultural education-teacher certification programs decide to change degree programs instead of completing their original career plans. Insight gained from this research may guide policy makers, administrators, advisors, and educators in supporting male ag teacher candidates to persist throughout their agricultural education-teacher certification program. It is our hope that gaining insight into this situation will help address the nation's agriculture teacher shortage.

Purpose and Objectives

The purpose of this case study research was to describe male undergraduate students' decisions to depart from the agricultural education- teacher certification track at the University of Missouri. Specifically, we were interested in understanding:

1) What barriers and supports do undergraduate male teacher-certification students experience during career decision making?
2) What are undergraduate male teacher-certification students' perceptions about their self-efficacy to teach agriculture?

Narratives from this bounded system will be valuable in helping educators and administrators gain understanding about male students' decisions to leave the path to become an agriculture teacher. Insights into this situation could be useful in addressing the nationwide teacher recruitment and retention issues we face (Ingram et al., 2018).

Methods

This qualitative research used an instrumental case study design (Stake, 2005) to describe male undergraduate students' decisions to discontinue on the agricultural education- teacher certification track at the University of Missouri. While relying on SCCT as a *theoretical framework*, researchers utilized a constructivist *interpretive lens* throughout the study. We assumed meaning for individuals is constructed through their interactions with others, the world around them, and how they interpret those interactions (Berger & Luckman, 1966). This allowed the research team to view each participant as an individual, exploring processes and experiences that shaped their career decisions over time. Two author-researchers are faculty members in Agricultural Education at the University of Missouri who previously taught in high school classrooms, and the third is currently a high school agriculture teacher. She graduated from the Agricultural Education-Teacher certification program at the University of Missouri and conducted this research project during her senior year.

Research Design

Instrumental case studies focus on a specific concern and select one bounded case to illustrate the issue (Creswell & Poth, 2018). We used the bounded system of the University of Missouri Agricultural Education-Teacher Certification program to describe the issue of males entering with the intention to become ag teachers but not completing certification. This case was selected to help us gain insight on why there are few males graduating from agriculture teacher certification programs. Focusing on the case at university of Missouri is appropriate because data shows that retaining males in the teacher certification program is a challenge. Additionally, our existing connections with male students who had attended this institution meant that participants were accessible for interviews.

With the goal of developing an information-rich case study, we used criterion-based selection (Merriam, 2009) to identify male undergraduates who entered but chose to discontinue the teacher certification program between 2014 and 2018. An additional criterion of this purposive strategy required that participants complete their degree at the university after switching their major. Six males consented to participate in this research, which was conducted over a one-year period. It should be noted that one of these participants left the teacher certification track but returned to it a year later. The research team made the decision to retain him in the study since he still met the criteria. Additionally, his interviews provided valuable insight that strengthened the research findings.

Data Sources and Collection

The research team used individual interviews, a photo elicitation activity, and document analysis to promote rigorous research with rich, transferable findings.

Interviews

Since our participants were scattered across the country, semi-structured interviews were recorded via zoom, phone, or face-to-face at the participant's convenience and transcribed verbatim. Open-ended interview questions were used flexibly, with no predetermined order (Merriam, 2009). Interviews consisted of questions about participants' background information, experiences, values, and knowledge (Patton, 2002). Interviews with each of the six participants lasted between 45 and 60 minutes. We also conducted a 30-minute follow-up interview with two participants to clarify lingering questions.

Photo Elicitation Activity

Photo elicitation is based on the idea of including a photograph in a research interview (Harper, 2002). We selected three photographs from our program's photo library that depicted three different tasks teachers of agriculture might engage in: a). teaching in a classroom; b). dealing with a fire in a shop; and c). assisting at a livestock show. As their semi-structured individual interview concluded, each participant was given this prompt, "*When you look at this picture, what comes to mind?*" When necessary, we asked follow-up questions about participants' confidence and capability to perform each task. Photographs can help to provide insight into participants' experiences, beliefs, values, and feelings (Harper, 2002).

Document Analysis of Facebook posts

Documents appropriate for analysis include written, visual, and physical materials that help inform a researcher's work (Merriam, 2009). Documents for this study included each of the six participants' individual Facebook pages from 2010-2022. We viewed these years to help us understand participants' formative years of career decision making as well as their careers and interests today. While analysis of documents such as Facebook pages may be incomplete or inaccurate (Creswell & Poth, 2018), information on social media helped us confirm information or point out discrepancies that they provided to us during their interviews.

Data Analysis

We analyzed interviews, photo elicitation, and Facebook posts using Glaser and Strauss' (1967) constant comparative method, as recommended by Merriam (2009) for case study research. Data analysis is the process of consolidating, reducing, and interpreting to make data meaningful (Merriam, 2009). First, we open coded the data, selecting segments or units of information that were related to the research questions. Next, we compared these codes with others in the research set, sorting the codes into tentative categories. These categories were informed by the study's purpose, our own knowledge as teachers and researchers, existing literature, and the meanings that were communicated by the participants (Merriam, 2009). Finally, the categories were condensed into five exhaustive and mutually exclusive themes.

Credibility and Trustworthiness

Multiple investigators, sources of data, and data collection methods provided triangulation, promoting the credibility and trustworthiness of this research. In addition to recording field notes and reflective memos, we engaged in peer debriefing throughout all phases of this research. Finally, the use of rich, thick description and an audit trail adds to the trustworthiness of this research (Merriam, 2009).

Findings

Description of the Case

The University of Missouri has an Agricultural Education degree program housed in the College of Agriculture, Food and Natural Resources. Students pursuing this degree program can choose between two tracks: Teacher Certification or Leadership and Communications. Between 2014 and 2018, [UNIVERSITY] had an average of 12.4 students completing the Agricultural Education teacher certification program each year. Seventy percent of the students were female, and 30% identified as male.

While the majority of the professional-certification credits undergraduate students are required to take as part of their degree program are housed in the College of Agriculture, Food and Natural Resources, they do take four courses (12 hours) from the College of Education. Most students enroll in these courses during their second and third years of the degree program.

There were two tenure track faculty members in the Agricultural Education program during the years this research was conducted, along with two non-tenure track faculty and an instructor. Three of these five individuals were traditionally certified agriculture teachers and taught at the secondary level before moving into higher education.

This case study research includes six male students who entered the Agricultural Education program at the University of Missouri with the goal of becoming high school agriculture teachers. All six participants changed career plans and discontinued the teacher certification program before graduating from the university.

However, after a year outside of the program, one participant (Thomas) came back to Agricultural Education-teacher certification track once again. Since he still met the study's criteria and added insight to the case, the research team made the decision to retain him in the study. Figure 1 depicts the participants, their earned degrees, and their current careers. As of today, all have graduated with degrees in Agricultural Education from the University of Missouri and are either employed in an agricultural career or pursuing a graduate degree in an agricultural discipline.

Figure 1.

Participants

Participant	**Degree Earned**	**Current Career**
Justin	B.S. Agricultural Education	Farmer (with father-in-law)
Austin	B.S. Agricultural Education	General Manager at an agricultural cooperative
Ross	B.S. Agricultural Education	Master's student in a college of agriculture
Devon	B.S. Agricultural Education	Territory Manager for an agricultural company
Mark	B.S. Agricultural Education	Master's student in a college of agriculture
Thomas	B.S. Agricultural Education	High school agriculture teacher

Five themes emerged from individual interviews, photo elicitation activity, and analysis of participants' social media pages. They included: a). *Sensing they "don't fit in;"* b). *Realizing their interests do not fully align with teaching;* c). *Feeling concerns about self-efficacy*; d). *Experiencing new opportunities in agriculture*; and e). *Acknowledging financial concerns*. These themes provide insight about male undergraduate teacher-certification students' decisions to change career paths at the University of Missouri.

Theme 1: Sensing they "*don't fit in*"

Overwhelmingly, participants felt like they did not fit in the agricultural education-teacher certification program. Although these words were spoken repeatedly during interviews, the way they felt they did not fit in was slightly different for each participant. Austin, who grew up on a small family, showed livestock, and participated in Dairy Cattle and Livestock Judging CDE's in high school explained:

> My first year I had to take some entry level teacher certification classes in the education school. You know, to me I guess... I didn't quite fit there. In the education courses, it's a little bit different crowd than the Ag industry.

Justin, who expressed how much he enjoyed the shop and running equipment during his interview with the research team, explained:

> You kind of get your fill at the time there in courses in the college of education. I immediately realized that I did not enjoy this course at all. I'm not like him [the teacher]. The Ag Systems Management side as well as the Plant Science side was a much better fit for myself. So, because of those education courses I was not very excited to keep continuing. My interest quickly drew to the other areas.

The "education courses" that Austin and Justin referred to are housed in the college of education. It is common for these courses to be filled with students studying elementary education. The course instructors are not always familiar with SBAE.

Thomas, who was raised on a row crop and cattle farm and returned home to work on the farm most weekends, explained the concept of not fitting in a bit differently. He felt like there were not enough males in agricultural education for him to fit in. He explained, "There's just... it's a lot of females in Ag Ed and stuff like that. But in Ag Systems, there's a lot of guys. And we click a lot better. We have a lot more in common... we can sit down talk about farming for an 8-hour day."

During the time Thomas was enrolled in the program, approximately 70% of teacher certification program completers at the University of Missouri were female.

Theme 2: Realizing their interests do not fully align with teaching

Several participants entered the teacher certification track with a deep interest and substantial experience in agriculture and desired to share that knowledge with others. However, over time they began to feel that was not enough of a reason to teach. He explained:

> At the time I came to the program I obviously was interested in agriculture..., and I liked the idea of teaching kids. But you know the further I got into the semester in the teacher ed course, I don't know...I lost interest may be the word. Or maybe just, you know, kind of got more involved in the agriculture department and eventually made the decision then that I should focus on ag content itself, not necessarily the teacher certification part.

Austin went on to explain that he especially enjoyed his Animal Science classes, which made sense to him since he had always raised cattle.

While Justin was a student, he often walked into class straight from his job at the university's agronomy research farm. Justin explained to us that the longer he was at the university, the more he realized he was interested in learning about plant science and ag systems at a deeper level instead of only taking the basic coursework in these areas that were required to teach agriculture.

Other participants entered college with less interest in agricultural content, but more extensive FFA leadership experience and the desire to work with students in that area. Over time, these participants realized there was more to being an agriculture teacher than the FFA aspect of the job.

Devon, who had been highly involved and excelled in LDE's during his high school FFA years, went on to be involved in a variety of leadership positions at the university. His Facebook page includes numerous pictures of him receiving honors and awards for his on-campus leadership contributions. When asked what led to him change his mind about becoming an agriculture teacher, Devon explained:

> Once I got further into my classes you know... started taking some of the courses about high school students, I was like... I don't know if this is for me basically. I just remember... like the record book class with Mr. Hoover. We learned about record books, and I really enjoyed record books. But I was like.... ugh! Trying to teach this to high schoolers could be really difficult I bet. So deep down I knew. I kind of like...suppressed it, I guess you could say. Because I was... I'm all about this FFA aspect...competing, traveling, and things like that.

Ross, who had been a Missouri FFA officer, also noted that he enjoyed the leadership aspect of agricultural education the most. However, he explained that as an ag teacher it is important to have a balanced three circle model. Ross stated:

> I don't want to sound shallow...but I'm not sure if I would have connected with every student equally. I probably would have connected more with students who were into FFA than all ag students. I feel as though that would be kind of... a disservice to all students in the classroom if I was like... super partial in that way. I was definitely more interested in the FFA part of being an ag teacher than the classroom part.

Justin explained that he entered the teacher certification program thinking teaching was about training contest teams, which had been an emphasis in his high school. After learning more about the teaching career, he began to understand that classroom teaching is a key piece of the three-circle model. Justin stated, "If I'm honest with myself, if I was to be a teacher... at some point I'd either get burned out or not be able to do that well. If FFA is my main reason for being an ag advisor, then maybe this isn't the best fit for me. "

Ross commented:

> I remember it was the lesson teaching experience...when I realized the day-to-day high school teacher job wasn't going to be enjoyable to me. It was a realization that I hadn't really understood the type of work that happens daily outside of the classroom in preparation for the classroom. I didn't realize how much of a commitment that was.

Participants looked forward to helping students learn about the things they themselves enjoyed and excelled at during their own SBAE experiences. As they got into their coursework at the university, it started to sink in that as an agriculture teacher they would be expected to be involved in classroom instruction, SAE, and leadership development. Furthermore, they would have to teach students the skills they enjoyed and others they did not.

Theme 3: Feeling concerns about self-efficacy

Several participants expressed concerns about their competence in many different areas. These included social competencies, technical skills, and agricultural knowledge.

Mark expressed concerns about his ability to work with people as an agriculture teacher. He explained, "I don't think honestly, I could deal with high school kids, middle school kids and also the parents. So, I guess that's why I kind of fell out of it."

During the photo elicitation activity, the research team showed participants a picture of an FFA member preparing her heifer for cattle show and asked what their response was to that photograph. Several of the participants who said they had been focused on leadership development throughout FFA expressed concerns about their self-efficacy to help students with livestock projects. Ross and Mark both talked about having no livestock experience. Ross said that he would be "*proud of his students*" who exhibited livestock but felt he did not have the knowledge or skills needed to guide or advise them. Mark had a similar attitude, saying that cattle put him "*out of his comfort zone."* He added, *"I'm not a livestock kind of person*." Justin expressed similar concerns, saying that he had never been around livestock.

Agriculture teachers are asked to be competent in a wide variety of areas. It is not surprising that participants did not feel they were competent in every skill they would need as an agriculture teacher. However, we did find ourselves more surprised at Mark's story.

Mark also talked extensively about being completely unprepared to teach shop, even though he had been enrolled in shop classes as a high school student. He explained, "Honestly, I was never involved in shop. I got out of doing shop things because I wrote speeches. Um, so I was...I never got to actually experience shop." Mark explained that if he wasn't working on his own speeches during shop class, he was helping other students work on their speeches or prepare for their other leadership development events.

Theme 4: Experiencing new opportunities in agriculture

Participants were impacted by high school and college jobs and internships in agriculture while they were making decisions about their career choices. In many cases, they accepted opportunities in fields highly related to these proximal influences.

For example, Austin began working at an agricultural cooperative during high school and continued there throughout his college years. Throughout those years, he connected with his boss and saw him as a mentor. As Austin became more familiar with and knowledgeable about this kind of work, he began to see it as a career option. Austin's Facebook page provided evidence that his boss connected with him and provided support even beyond the store, even depicting Austin's boss and his wife attending one of Austin's cattle shows. It is not surprising that today, Austin manages an agricultural cooperative. He considers his former boss to be a mentor and still calls or visits him to "touch base" or "ask for advice."

Similarly, Ross held a job with a curriculum development company throughout college. Ross explained:

> Yeah, they've been really good about it. Like... I get to work on a project because I'm interested in it. They'll find a way to include me; I'm meeting somebody once every two weeks to talk about like... what I'd like to learn more about, what I'd like to stop doing. I feel like especially there...they've been super supportive.

Ross added that he could see himself in curriculum development work upon the completion of his master's degree.

Mark, who was involved in a science-based SAE during high school and worked in a research laboratory as an undergraduate, began to see a future in this field. He is currently pursuing a master's degree and is heavily focused on research.

Justin had the opportunity to work at the university research farms throughout high school and college. Although he had not grown up on a farm, these early jobs helped him discover how much he enjoyed tractor work. When upon graduation he had the opportunity to farm with his father-in-law, that was "an easy decision."

Five participants talked about how their part time work exposed them to new opportunities in agriculture and made them consider alternative career options. Ironically, Thomas' summer employment prompted him to *return* [emphasis added] to the teacher certification track after switching majors for one year. Thomas explained:

> I interned with [an agriculture cooperative] and I really enjoyed it. But I was working all hours...whenever the weather was good, we were running. I got to evaluating what I enjoyed and job availability back home where our farm is. I realized teaching would allow me to still farm. I could still check cows after school, I would be close to home...and I would be doing what I love.

Theme 5: Acknowledging financial concerns

Each of the participants mentioned financial concerns about the teaching profession. Austin explained, "First off, it's hard to ignore the job market for educators right now, especially in the state of Missouri. Thinking about salary, benefits, things like that... so that was something that was always tolling on my mind."

Devon, whose mother had been a teacher, explained:

> She's been involved in the retired teachers' association, so she kind of I guess had an insider view of things with education. You know funding keeps getting cut for schools and you know that retirement program...they keep trying to take their money as well.

Thomas, who left the teacher certification path to pursue a degree in Agriculture and returned to his original plans one year later, also had concerns about teacher salaries. When asked why he made the decision to return to the teacher certification program he explained, "I gave myself permission to put enjoyment over dollars. It is hard because money makes the world go round, so it's hard not to chase it."

Thomas was the only participant to mention the availability of agriculture teaching jobs in rural areas. None of the participants mentioned that these positions are often among the highest paying jobs in small, rural communities in the state of Missouri.

Conclusions, Recommendations, and Implications

Conclusions

While case study research focuses on a bounded system and does not allow us to generalize (Merriam, 2009), much can be learned from this case and potentially transferred to a new situation (Erickson, 1986). To fully address the decline in male teachers, organizations must identify the underlining causes or reasons why men are not entering the teaching profession (Cushman, 2007). Factors that have been identified as deterring men from entering the field of education include teacher salaries, workload, and social status (Cushman, 2007). This research, which focuses specifically on agricultural education, adds to the body of work that explores why males are not entering the teaching profession. Interviews, document analysis, and observations support Cushman's findings that teacher salaries, workload, and social status deter males from choosing to be teachers.

However, this research suggests that males' decisions not to teach are also influenced by other opportunities made known and available to them in the field of agriculture, a lack of confidence about their own knowledge, skills and abilities, and a general sense that they do not fit in with others pursuing the degree. Ingram et al. (2018) reported social influences and social values as key motivators in choosing to major in agricultural education. This research supports the previous study by illustrating how male students perceived and processed the lack of social support and not feeling a fit in their decision to leave teacher education.

Related to the issues of fit and support were how the waves of peer interactions, field experiences, and classwork eroded students' notions of the actual tasks of being an agriculture teacher in a complete program. The more the participants gained perspective beyond their own narrow experience, the less confident they felt in their abilities and decisions. The expectations of creating both an idealized version of a quality Agricultural Education program and a functional work-life balance (Solomonson et al., 2019) weighed heavily on participants. Could our well-intentioned efforts be unintentionally lowering students' self-confidence to a point where they are deserting their career goals?

Recommendations

Researchers recommend further research into the definitions and support systems of social value and influencers for male agricultural education students and their relation to self-confidence. What are the experiences of male students in college of education courses when interacting with preservice teachers and faculty within other certification areas? Researchers should further investigate the internal and external career and financial pressures of rural male students in colleges of agriculture.

Preservice teachers should carefully consider the expectations placed on male students within educational coursework and encourage students to engage in extracurricular activities which build social value and self-confidence among students. Additional research is needed to determine to what extent male teacher certification persistence is problematic in other universities and in other states; we do acknowledge that the themes in this research may potentially be unique to this case. What is the critical mass of male students needed in a cohort to create feelings of fitting in? Additionally, this research brought to light that occasionally males who leave the teacher certification track may return to the teacher education program. Research should be conducted to explore to what extent males who leave the teacher certification track re-enter at a later point through a non-traditional pathway. Finally, research is needed to explore the phenomenon of male teacher certification students who complete their degree programs but never teach in the high school classroom.

Implications

Findings suggest that proximal influences during times when male students are making decisions about careers are particularly important; many of the participants in this study landed in full-time careers that were initiated by their internships or part-time jobs. One challenge facing teacher education programs may be the limited internship opportunities that specifically translate into practical experience and knowledge needed to teach agriculture. Social cognitive career theory emphasizes that contextual supports promote learning experiences and impact self-efficacy (Lent et al., 2002). While a student pursuing another career pathway may be involved in a full-time internship with a company as early as the summer of their first year of college, teacher certification students do not experience significant work in their specific pathway until student teaching. The profession should carefully consider meaningful employment opportunities that will support teacher certification students' opportunities to build knowledge and experience in the classroom earlier in their teacher prep program. On a policy/systems level, how can agricultural education provide more hands-on engagement opportunities for male teacher prep students to work with younger learners or assist in a classroom earlier in their college careers?

Preservice programs can provide opportunities for preservice teachers to interact with students and assist with teaching earlier in the teacher prep program to address challenges with teaching self-efficacy, which several participants indicated was a concern for them. However, several participants also expressed concern about their self-efficacy in content areas such as shop and livestock handling, even when they have taken classes in these areas in high school. It is unreasonable to expect preservice students to have knowledge in all agricultural fields, but these findings should raise an alarm for the profession. Participants reported taking high school agricultural mechanics classes, but instead of working in the laboratory, they were spending class time writing and practicing speeches. Are students truly taking away the knowledge and skills they need from their high school ag classes? Are there additional content knowledge expectations lumped onto male students? Why do preservice content and education course expectations and content differ so greatly from the expectations generated by preservice teachers through their high school experiences? All these questions beg for deeper exploration.

Finally, participants identified concerns about teaching salary and parent perceptions as barriers to completing a teaching career. Although these perspectives are certainly not new, perhaps the "not fitting in" theme is a bit more troublesome and surprising to the profession. It is ironic that students who spend their high school days focusing on leadership activities may not feel like they fit into teacher certification programs, and neither do the students who focus primarily on ag content. As the agricultural education profession continues to address teacher retention, perhaps it is time for more discussion on barriers to career entry based on expectations for fulfilling the three-circle model for agricultural education.

Perhaps we can rationalize fewer males completing agriculture teacher certification programs as our profession follows the larger national and international trends of a decrease in males across all subject areas. Males comprise less than 25% of the United States teacher workforce, and 77% of the increase in secondary teachers are female (Ingersoll et al., 2021). Male teachers can provide important balance and representation in a faculty Male teachers can provide benefits at the student level, classroom level, organizational level, and societal level (McGrath et al., 2019). Which gender students most often is told "college isn't for everyone"?

This study sets the table for intriguing discussions on teacher preparation pathways. Agricultural Education teacher preparation programs are primarily housed in colleges of agriculture. Conceptually, an Agricultural Education degree is a degree in agriculture with an emphasis in teacher education (Barrick & Garton, 2010). In practice, the number of technical content credits required for certification has been reduced by almost 50% in the past 40 years (Rankin et al., 2023). Participants described feeling better fit in their hands-on technical content courses, and conversely isolated in their education coursework. Is Agricultural Education still a technical agriculture degree?

We have unanswered questions about the career paths of these individuals and their potential success and satisfaction had they decided to persist in their career goals to be an agriculture teacher. Individuals should have free choice in determining their career. Career choice is heavily influenced by opportunities and environment. We found evidence of both. A career choice toward a better opportunity is a positive outcome of choice for the school and individual. However, if students are leaving the agricultural education career path in search of a better college environment, then this leads to important questions about the structure of teacher education programming. This raises a critical question: IF our young male teachers are succeeding at similar rates as their female counterparts, and if the participants in this study would have been successful agriculture teachers, then should the bottleneck in the teacher pipeline could be attributed, in part, by the environment by which we prepare and certify teachers? Research should be conducted to determine attrition rates of early career male agriculture teachers.

Current teacher preparation and certification structures reflect (and are rewarded to keep) antiquated single-career models where one chooses a degree pathway for a lifetime career in teaching. A

refocus of traditional agricultural education preparation as a technical degree, with supplemental training in education, as an environmental shift, should be considered. Perhaps education leaders should consider micro credentialing for individuals who want to specialize in specific content areas or who are dissuaded by particular content or intracurricular job responsibilities. With the proliferation of online certification, alternative certification pathways, and testing into agriculture certification from other pathways, teacher education leaders should also consider the merits of investing in career certifications, apprenticeships, and supplemental pedagogical training for technical experts as viable preparation pathways for technically skilled males, both undergraduate and second career, who are interested in teaching.

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