

Gender Bias Experiences in School-Based Agricultural Education

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Abstract

Today, women compose 44% of students enrolled in FFA and 50% of leadership positions within FFA are held by women. The increasing number of women in School-Based Agricultural Education (SBAE) raises more questions of how gender-based bias may continue to manifest itself. In this study, we interviewed and surveyed women SBAE teachers to explore the sources and manifestation of gender bias within SBAE. We found women experienced gender bias from students, peers, and from within the agriculture industry. This gender bias took many forms which includes retaliation, disrespect, sexual harassment, cover gender bias, stereotyping, the questioning of expertise, and disregarding professional abilities. Given these findings, we propose recommendations including trainings and support for students entering the profession and for current teachers, and more research about women agriculture teachers' experiences in SBAE.

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Introduction

Despite past research highlighting the challenges that women agriculture teachers faced in the profession (Foster, 2001, 2003; Kelsey, 2006a.; Murray et al., 2011), women teaching in agriculture classrooms has steadily increased since the 1990s. Enrollment of women in agricultural education at the collegiate level has continued to increase since 1991 (Retallick & Martin, 2008). The demographic shift of women becoming more populated in SBAE spaces has been documented over the past three decades (Castillo & Cano, 1999; Castillo et al., 1999; Foster, 2001; Foster et al., 1991; Sorenson et al., 2017). As of 2000, women accounted for 15.77% of the agriculture educator population (Foster, 2003); this number rose to 27% in 2007 (Kantrovich, 2007). By 2010, women made up many recent agricultural education graduates (Kantrovich, 2007). A recent National Agricultural Education Supply & Demand Study indicates 76% of license-eligible agricultural education program completers identify as female (Smith et al., 2022). The survey did not provide data on the number of women currently serving as SBAE teachers. The increasing number of women in agricultural education raises questions on how gender relations in agricultural education have evolved.

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The 20th century brought about changes in gender roles in society and agriculture. During both World Wars, women filled key roles in agriculture and industry (Litoff, 1993). It should be noted the way women interacted with agriculture is highly dependent on the woman's identities beyond their gender. The agricultural experiences of Indigenous women and Women of Color differ due to unique cultural traits and systemic oppression. After the World Wars, education for primarily white women focused on home economics, encouraging existing gender roles. As of 2021, the American Community Survey reported 28% of all agricultural occupations were held by females (U.S. Census). The 2017 Census of Agriculture reported 13% of female producers operated farms where they were the only producer (USDA). Female farmers have been seen to prioritize sustainable agriculture, focus on community well-being, and implementing "expense reducing" strategies (Trauger et al., 2008; Sachs et al., 2016; Schmidt et al., 2021). In response to women's restricted involvement in agriculture, there has been increased research aimed at recruitment, training, and retention for women in agriculture (Heins, Beaulieu, & Altman, 2010; Iutovich, 1996; Thorpe et al., 1998).

The barriers facing women from being in male-dominated spheres can be seen in through women's delayed admittance into the FFA and agricultural education (Enns & Martin, 2015). Apart from a select few visionaries in agriculture, women have been limited in their agricultural involvement to being supporters of men agriculturalists around them. Women are expected to fill gendered roles within agricultural spaces (Enns & Martin, 2015). The juxtaposition of women supporting agriculture versus actively participating in agriculture is characteristic of the historic relationship of women in agriculture (Shisler & Sbicca, 2019; Trauger et al., 2008).

Regardless of the increase of women in agricultural education teacher preparation programs, and even as teachers, the historic reality of gender inequality places gender-based barriers for women (Foster, 2003). Gender bias was a deterrent for women entering agricultural education and the small number of women in agricultural education would be attributed to male dominance in the field, lack of acceptance from community, and the high stress and amount of time that can be spent as a teacher (Foster, 2001; Foster et al., 1991). Women in agricultural education face barriers to entry, such as lack of acceptance, struggle to find work and family balance, and lack of role models (Kelsey, 2006a; Knight, 1987; Murray et al., 2011; Seevers & Foster, 2003). These barriers to entry experienced by women agriculture teachers deter women from continuing to teach in agricultural education. Lack of support and feelings of unacceptance push women agriculture teachers from their teaching positions or deter women from entering the career altogether (Kelsey, 2007). While some of these studies are not recent, it is important to note that barriers for women in agricultural education have remained over time (Baxter et al., 2011; Donaldson, 2022; Foster, 2007; Kelsey, 2006b).

Barriers to entry have remained as a constant for women in agricultural education since they first entered the career. Gendered differences of self-efficacy have been identified in research as a challenge. Self-efficacy describes "...people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994, p. 71). Male teachers have been seen to have higher self-efficacy than females in across the three SBAE domains of classroom, FFA, and SAE (Wolf, 2011). Women with low self-efficacy can be pushed out of the career altogether (Kelsey, 2007). In response to this, some women have tried to develop higher levels of self-efficacy to continue within the career (Baxter et al., 2011; Kelsey, 2007). Elevated levels of self-efficacy have been positioned as the socially acceptable response, but there is validity in exiting the career as enduring gender bias can be highly traumatizing. These previous studies on gender bias in agricultural education laid the foundation of this study.

Purpose of the Study

The purpose of this study was to explore the sources of gender bias experienced by women teachers in SBAE and how gender bias manifests within the industry. Past research has focused on barriers to entry,

which included gender bias, but absent is the research addressing the sources and manifestation of said gender bias.

Conceptual Framework

This study was informed by the work of feminist researchers. Feminist researchers contend society, including agricultural spaces, is dominated by the patriarchy in which women are kept from positions of power (Lerner, 1979; Murphy & Venet, 1997). Epistemological and methodological feminist perspectives "...recognize the importance of women's lived experiences to the goal of unearthing subjugated knowledge" (Hesse-Biber, 2014, pg. 3). Feminist theory as a conceptual framework was utilized to highlight participant voices and perspectives. "Feminist research begins with questioning and critiquing androcentric bias within the disciplines, challenging traditional researchers to include gender as a category of analysis" (Hesse-Biber, 2014, pg. 5). Challenging traditional research and questioning of male-centered bias is central to this research.

Language is incredibly important when discussing gender-based issues. Words used to describe "sex" and "gender" are often used interchangeably even when they are not inherently synonymous. Sex refers to biological distinctions between males and females while gender is a socially constructed concept (Short et al., 2013). This study's scope is focused on participant gender, prioritizing the term woman to describe the gender identity of participants rather than focusing on their sex. 'Cisgender' is a common term used in discussions at the intersection of sex and gender. When 'cisgender' is used within the study, the following definition is implied "cisgender describes someone whose internal sense of gender corresponds with the sex the person was identified as having at birth" (Merriam-Webster, 2024). The term 'female' during this work is used as it appears in the works of others as to not be presumptive of the gender identity of participants from other studies.

The usage of feminist conceptual frameworks within agriculture has been growing steadily, having garnered its own subsects of feminist research, such as Rural Feminism (Marti, 1984), Feminist Agrifood Systems Theory (Sachs et al., 2016), and Feminist agroecology (Trevilla Espinal et al. 2021). The mere presence of feminist theory within agriculture does not allow the field to evade critiques of its persisting patriarchal alignment (Farhall & Rickards, 2021). In an analysis of women's relationship with agriculture, Sachs et al. found "Agriculture institutions continue to be male dominated, and most of the men (and many of the women) involved adhere to patriarchal systems within agriculture" (Sachs et al., 2016, pg. 4). It is necessary to apply tenants of feminist research to the culture found with agriculture education as feminist research studying women's perspectives the field are severely lacking.

Gender bias is a term frequented by feminist scholars, used to describe prejudiced thoughts and actions guided by the belief that men and women are not equal (European Union, 2023). The term "gender bias" is used throughout the study as the mode in which women experience gender-based mistreatment within their careers in SBAE. Gender bias has been clearly documented within agricultural education research (Donaldson, 2022; Enns & Martin, 2015; Kelsey, 2006b, 2007; Kleihauer et al., 2013; Luft, 1996). The agricultural education research identified potential sources of gender bias for women agricultural teachers as students (Baxter et al., 2011), peers (Kelsey, 2006a), community members (Foster, 2003), and the agricultural industry (Sachs et al., 2016; Trevilla Espinal et al. 2021). Within the context of this study, sources of gender bias were defined by the individual or institutional origin of gender bias the participants encountered during their time as a student teacher or working as an educator. Gender bias from students included participant experiences directly from students. Gender bias from peers was defined as encounters within formal and informal settings from friends or colleagues. Gender bias from community members was defined as coming from interactions outside of the personal and/or work circle of the teacher. Finally, gender bias from the agricultural industry were from individuals working within the agricultural industry.

This study analyzed gender bias in agricultural education through interviews and a survey of current school-based agricultural educators as well as those who left the career that self-identify as women.

Methods/Procedures

This study utilized both qualitative and quantitative data, which allows for a more complete image of the research question at hand (Creswell & Plano Clark, 2018). Data was gathered through a survey and interviews, and demographic forms from interview participants. This form of triangulation allows for additional checks for validity. “Studies that use only one method are more vulnerable to errors linked to that particular method than are studies that use multiple methods in which different types of data provide cross-data validity checks” (Patton, 1999). These validity cross checks provide trustworthiness to the data collected.

In alignment with IRB stipulations, the survey provided a summary of the study, the anticipated usage of data collected, and an overview of participant rights. IRB required that the women who participated in the study would have their identities protected using pseudonyms and the redaction of identifiable information. Consent forms were created to communicate the rights of participants regarding the data collected prior, during, and after their interviews.

The survey was created to gather information on the sources of gender bias from women than could not be interviewed during the research period. An optional section was given for participants to elaborate on their experiences of gender bias. This survey consisted of twenty questions designed to mimic aspects of the interview questions to gather data on the agricultural educators themselves and the sources of gender bias in participant’s experiences. The others did not expect the survey to provide the same rich and complex data found within the interviews, rather the survey was implemented to support the interviews. A mix of 20 multichoice and open-ended questions spanned over demographics, courses being taught, agricultural involvement, and experiences of gender bias (wording of questions can be found in results section). These are the survey questions focused on gender bias:

- "Have agriculture professionals challenged your knowledge of agricultural topics on the basis of you being a woman?"
- "Have students challenged your knowledge of agricultural topics on the basis of you being a woman?"
- "Have coworkers challenged your knowledge of agricultural topics on the basis of you being a woman?"
- "Is there anything else you would like to add about gender bias against women who pursue a career in agriculture education?"

This survey was posted to ‘Teach Ag’ Facebook page for the members to voluntarily fill out over the course of a week. Kalimeri et al. suggests “...that Facebook is indeed a valid research tool to administer social and psychometric research surveys...” (2020, pg. 135). Past research suggests social media platforms like Facebook provide the opportunity to conduct large scale research tackling social issues (Burke & Kraut, 2013; Dubois et al., 2018; Kalimeri et al., 2020; Sage, 2014). In the end, 19 women responded to the survey. Participants’ experience as agricultural education ranged from 1 to 20+ year(s), while 18 women surveyed identified as white with one participant identifying as ‘other’, and 13 of participants between the ages 18-30. The survey was then analyzed using descriptive statistics.

Interviews were utilized as they align with the feminist framework. “Interviewing is a powerful research tool for feminist researchers interested in exploring women's experiences and the contexts that organize their experiences” (Hesse-Biber et al., 2014, pg. 192). For the interview portion of the study, an initial group of five women were initially recruited by looking up local directories. A snowball technique of participant recruitment was employed, resulting in a total of eight cisgender women agreed to be

interviewed. These women were from rural communities in two Midwestern states and varied in their ages and years of experience as agricultural educators.

Prior to the interview, demographic and consent forms were sent to the participants. To answer the study's research question, interview questions focused on four potential sources of gender bias for the interviewees: students (Baxter et al., 2011), peers (Kelsey, 2006a), community members (Foster, 2003), and the agricultural industry (Sachs et al., 2016; Trevilla Espinal et al. 2021). Interviews took between 30 to 60 minutes, conducted over Zoom, and the recordings were then transcribed utilizing the Zoom transcription service. All interview transcripts were then edited to match the interview recordings.

An initial set of four codes were created to match the anticipated participants sources of gender bias. The coding process was thereby simplified as the codes aligned with the interview questions: students (Baxter et al., 2011), peers (Kelsey, 2006a), community members (Foster, 2003), and the agricultural industry (Sachs et al., 2016; Trevilla Espinal et al. 2021). During the second round of data coding, gender bias from community members and the agricultural industry were inextricable leading to the merging of these codes. When interviewees shared experiences in response to questions pertaining to gender bias from community members, the community members were also members of the agricultural community or a member of the interviewee's peer group. The final codes of students, coworkers, and agricultural professionals were brought to the research team by the lead researcher to validate the data analysis.

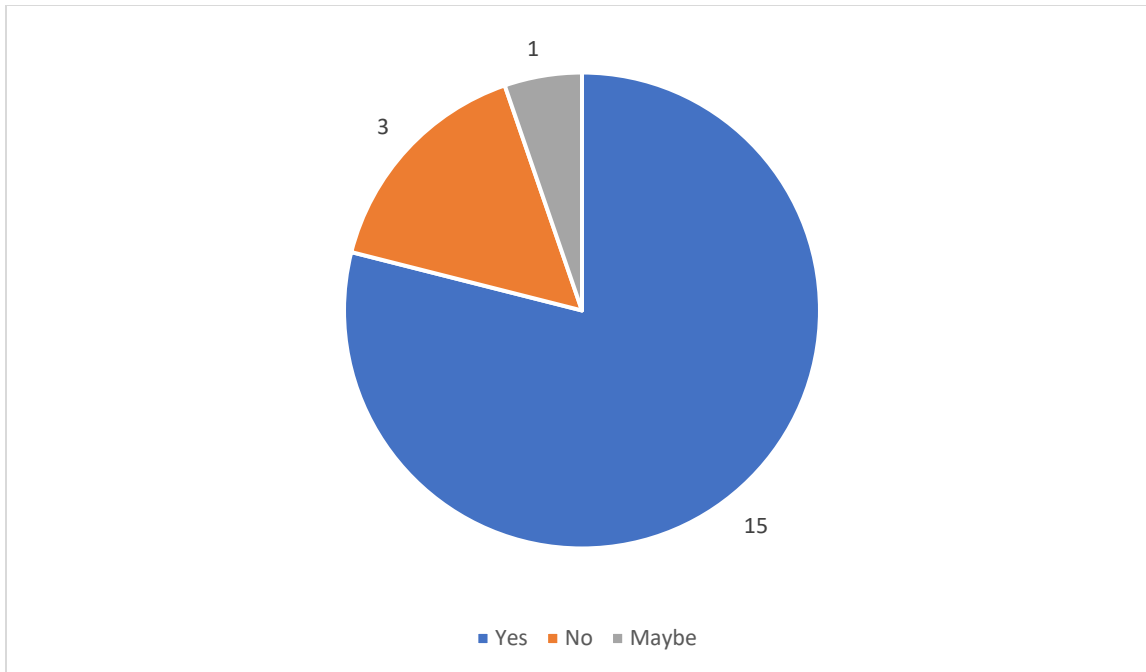
The research team's positionality was considered during the research process. The lead researcher identifies as a cisgender woman, and believes gendered experiences provide a valuable well of knowledge that should be pursued further by researchers in agricultural education. The second member of the research team was an outsider to SBAE yet has experience teaching high school and working in informal education contexts with marginalized communities and critical approaches to agricultural education research. The third author identifies as a straight, cisgender man who is an insider to agricultural education, and is experienced with critical research.

Results

Overall, the participants reported pervasive gender bias while working in SBAE. The survey data found a total of 79.9% of respondents reporting feeling as though they had been treated differently for being a woman during their time as an agriculture teacher (Figure 1). Of the interview participants, 7/8 reported experiencing gender bias. From the interviews and survey, three important themes emerged. The participants described experiencing gender bias when interacting with 1) their students; 2) peers; 3) and members of the agricultural industry.

Figure 1

During your time as an agriculture teacher, have you ever felt like you were ever treated differently for being a woman?

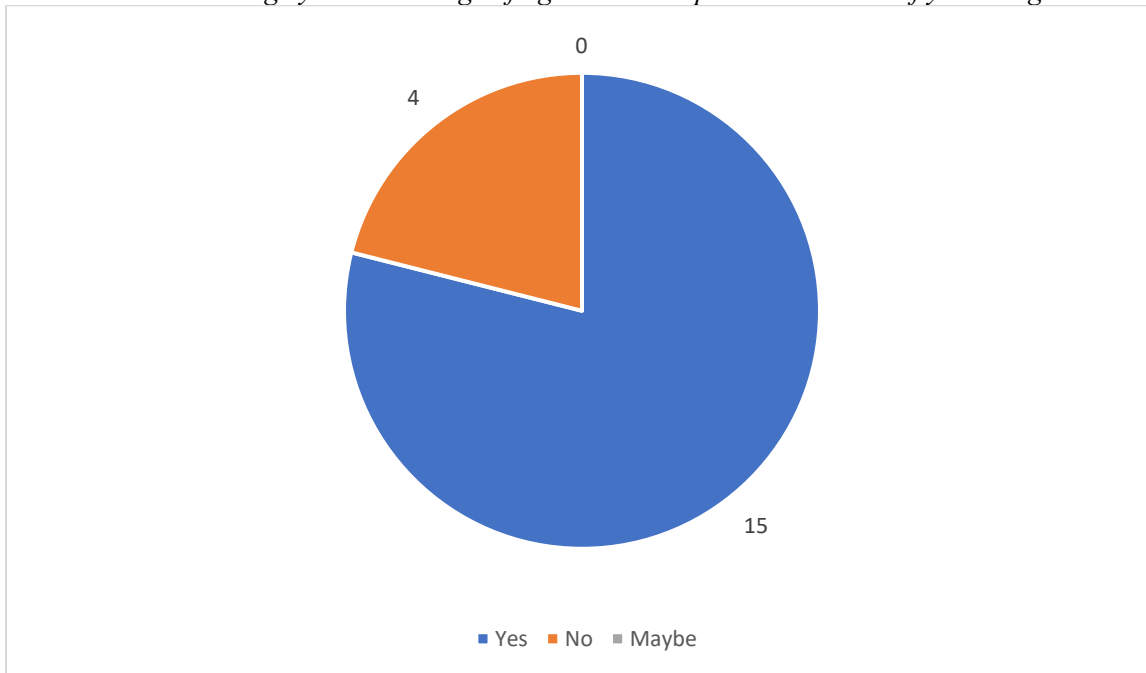


Gender Bias from Students

Participants described instances of gender bias that they experienced from students. These occurred in their agriculture classrooms and during teacher training. As seen in Figure 2, the survey data reported 78.9% of participants having students challenge their knowledge of agricultural topics based on being a woman.

Figure 2

Have students challenge your knowledge of agricultural topics on the basis of you being a woman?



Some of the participants explained that students, particularly those who identify as men, often challenged their expertise about course content. One anonymous survey participant disclosed the following regarding gender bias in her classroom, “I see it most often in my teenage boys from sophomore and junior year.” While the research team did not have the chance to ask survey participants to elaborate on their responses, the interview participants were prompted to understand their experiences better.

Of the eight interviewees, three shared experiences of gender bias from their students. In SBAE, students can be found to have differing relationships with their teachers based on the instructor’s gender. Shelby shared an experience of a student (whom she described as a ‘gearhead’) presenting a project on his mechanics project, “I had this one student who he told me that he did his work on a lawnmower. (While) he's presenting to the class, every single picture of the lawnmower, it was a different lawnmower.” The student assumed Shelby would not recognize his fabrication of the assignment. Later in the same interview, Shelby explained her own perceptions of the event, “I guess, like some of the boys like they try to like trip me up on that kind of stuff” Some students in Shelby’s classroom make assumptions of her knowledge on account of her gender. During the beginning of her career, Lisa experience something similar when she took over an agricultural mechanic’s class which had been taught by man. Students were apprehensive about her presence in the classroom. Gender bias in the classroom is not always as covert as these accounts present; some situations are more direct and overt. Shannon, an interview participant, described an experience she had as an example of this:

There are students that I know they wouldn’t have pulled the same things with my co-teacher who was a man at the time. I had one of my FFA officers call me a bitch on his Twitter account during class because I disciplined him for doing something. Those are not things and relationships that they ever had with my co-teacher at the time. You know, he walked in like they were angels, because I was a woman, I was a young teacher they felt they could get away with those things.

Shannon received backlash from students due to her disciplinary actions, yet when her male-presenting co-teacher interacted with the students, they changed their attitude. While Shannon received backlash from students indirectly through the internet, gender bias is also seen through direct comments from students.

Another interview participant, Lisa, also described a similar experience she had during teacher training with a student on multiple occasions.

And we were going over balance statements and one of the boys sits back in his chair and he goes, ‘Why the hell should we listen to you? You're just a damn girl.’ And he, and he never made another comment, he did try to hit on me one day at National Convention, I put him back in its place.

These negative interactions with students not only undermine the teacher’s knowledge but can impact the teacher’s relationships with other students as they undermine these women’s authority in their own classrooms. The experiences presented highlight a challenge that participants faced often in their classrooms based on their gender as students question their expertise in agriculture. Within their SBAE classrooms, women agriculture instructors can face gender bias from their students through questioning of knowledge, retaliation, blatant disrespect, and sexual harassment.

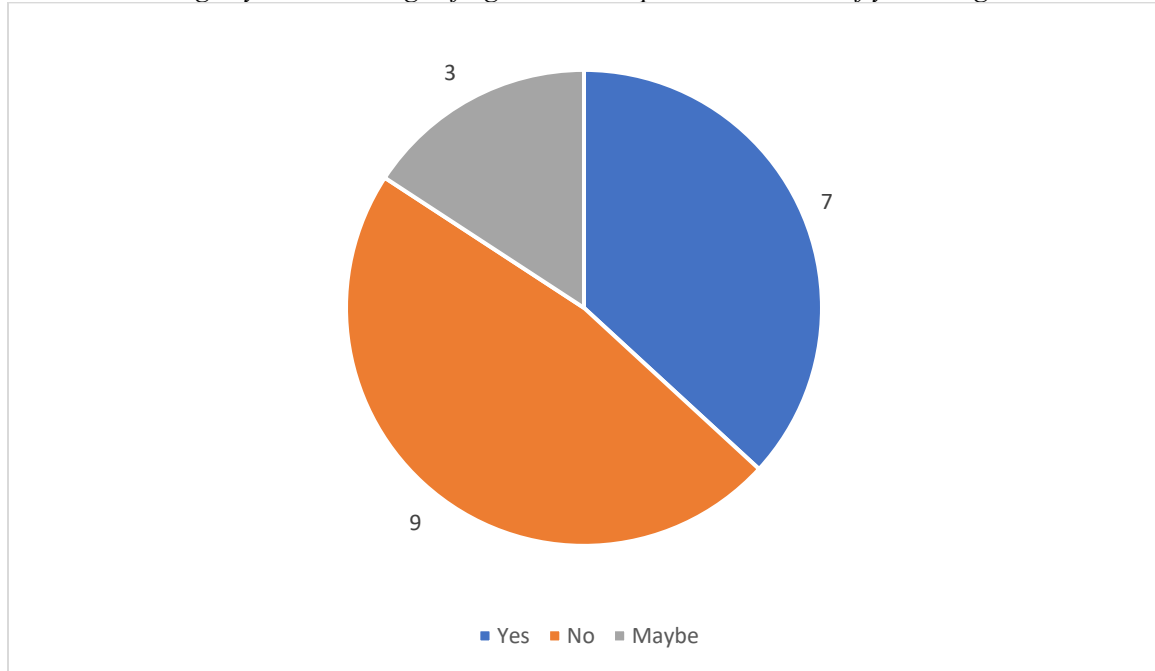
Gender Bias from Peers

Gender bias from peer groups was an additional avenue in which women experience gender bias in SBAE. When responding to the question “Have coworkers challenged your knowledge of agricultural topics on the basis of you being a woman?,” survey participants responded as follows in Figure 3.

Coworkers or peers as a source of gender bias, while still high at 47.4%, was the least pervasive when compared to other sources within the survey data set.

Figure 3

Have coworkers challenged your knowledge of agricultural topics on the basis of you being a woman?



Half of the interview participants faced gender-based discrimination from their peers within both formal and informal settings. Lisa served on a board of directors which happen to be primarily comprised of all women. Male agriculture teachers relayed their displeasure with the abundance of women on the board, “Y'all are going to bicker and that's all it's going to be” and I was like, “I’m very capable of getting work done just like you are. Just because I have ovaries doesn't mean I can't do that job.” Lisa’s peers utilized gender stereotypes of women having the inability to along have a good relationship with one another to denigrate the contributions of women serving on the board of directors. Women who experience this form of gender bias from peers may be discouraged from taking leadership roles in the future.

While working with a foundation within her school, Clara was assumed to be the subordinate of her male counterpart due to her identity as a woman, “My counterpart is male here. And in the beginning, when I was hired, and granted he was here longer than I was, but my counterpart and I are equals, but I was definitely perceived as like as my counterpart’s subordinate.” The assumptions of the foundation director of Clara’s position within the department were grounded in his own biases. Even Clara’s coworkers took notice of the gender bias occurring within foundation meetings. Clara’s gender bias was resolved only after she addressed it with the foundation director,

And then so, um, so I did approach the foundation director and just, like that kind of took a lot of guts, but I knocked on his door and was just like, “Hey. I have just noticed that you know you are constantly referencing my counterpart, and I just want you to know that he and I are equal. And I have just as much whatever, representing the agriculture program,” as he says, and he did say, “I do apologize. I did think that you reported to him,” so it was like an assumption...

Clara’s bravery should be recognized as not all women are able to speak out against the gender bias they face. The gender bias Clara faced was sourced from the foundation director and further perpetuated by her

peer who took credit for the work they completed together. Clara's experience provides another example of gender bias from peers in a formal setting.

Within her two-teacher agriculture program, Bailey incurs gender bias from a coworker through their refusal to discuss mechanical issues with her, and instead insists on speaking to her co-teacher. Bailey primarily teaches plant and animal science to freshmen and sophomores while her co-teacher handles upper-level mechanics coursework, but Bailey still holds a working knowledge in mechanics. "Someone was asking about, um, like an engine in their vehicle. That's all it was like it, but... I say he's like 50, male teacher like just having conversation like I'm trying to talk to him he's like "I'll just talked to (co-teacher)." Later in the interview, Bailey responds to this covert gender bias, "...it was just those little things get to you. Like, 'Oh, no. I can- I can try and help you too.'" Bailey's experiences are the perfect example that covert gender bias can still have an impact on women agriculture teachers. Carla experienced a similar type of gender bias from social studies teachers within her district who questioned her knowledge, while Lisa experienced gender bias from women coworkers who are surprised she dresses nicely as an agricultural teacher.

Gender bias from peers occur in formal and professional settings and informal ones. Clara reflects on her gender bias experiences from her social peers:

I have introduced myself as an agriculture teacher and they have either gotten the comment 'you don't look like an agriculture teacher' or 'my high school agriculture teacher wasn't as pretty as you.' There's been like sexist things regards so that it just like undercuts my intelligence and you know you're just literally looking at me as a pretty thing, as opposed to an intelligent educator so that has happened multiple times too.

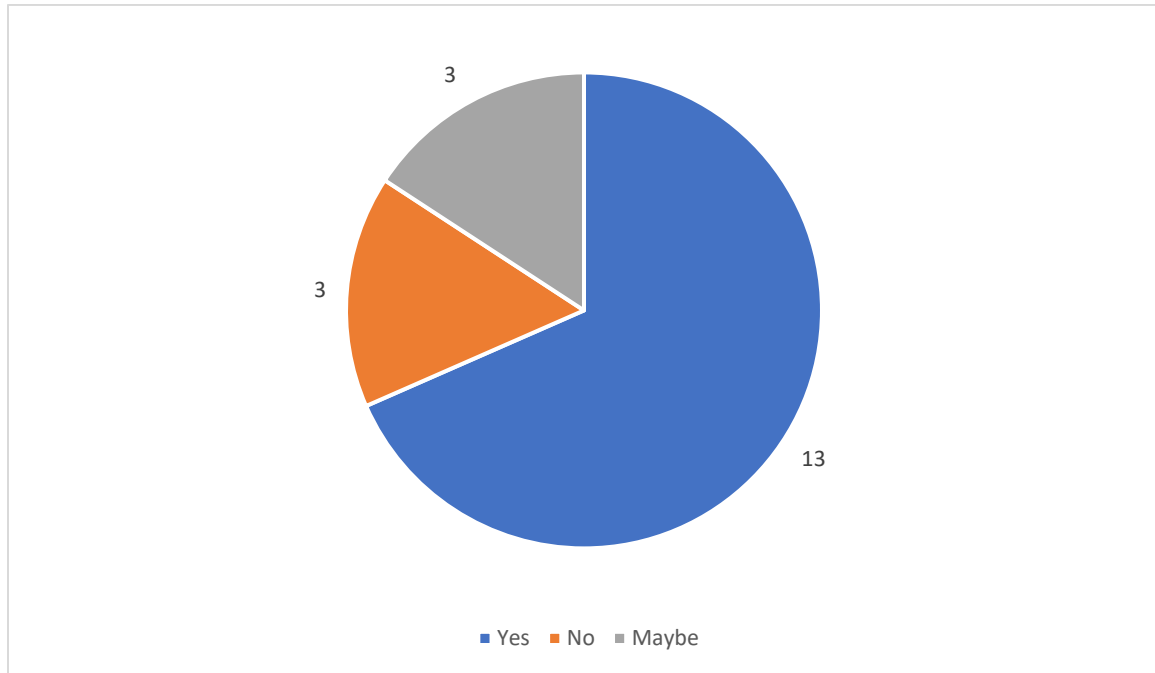
These statements reduced Clara to a sex object rather than her professional abilities as an agriculture educator. A survey participant recounted an ulterior side of commentary from her peer group, "Even though women are predominantly the ones going into agricultural education it is still often heard "not many women in your position etc." comments. Sad reality." Comments such as this from peers undermined the intelligence and professional standing of women agriculture teachers. Participants experience gender bias from peers within formal settings, such as stereotyping or covert gender bias, and informal settings, such as sexual harassment.

Gender Bias in Agriculture Industry

Participants of the study experienced gender bias while working within the agriculture industry. This theme was found in five of the eight participants' interviews. Survey data demonstrates 68.4% of participants answering, 'Yes' to the question, 'Have agricultural professionals challenged your knowledge of agricultural topics on the basis of you being a woman?' (Figure 4).

Figure 4

Have agricultural professionals challenged your knowledge of agricultural topics on the basis of you being a woman?



Rebecca scratched the surface of this issue while alluding to its prevalence, “When I worked at the feed store, yes, there was major bias. When I worked with cattle, there was major... I can tell you stories.” Rebecca experienced gender bias at multiple companies while working in the agriculture industry. Shelby recounts bias while working agricultural auctions with her father. When loading their purchases, men would be opting for her brother’s help instead, often sending her away in search of him as a result. Often gender bias for women in the agricultural industry is founded in the belief women do not have the physical capabilities to help with certain tasks.

Carla recounted her own experiences working within the corporate world of agriculture where she received bias through the undermining of knowledge:

But after being there for a year, you looked around and there were offices and then there were people in the central part like a general desk area. And all the offices were male offices and everybody in the center were female or female people it didn't matter how much experience you had. But because I was a female, there was no way they were ever going to ask me questions about it [dairy science], even though I was still production agriculture.

The degree of gender bias within Carla’s workplace led to her leaving the career. This same dismissal of knowledge was seen when Clara’s discussed the dismissal of women sales representatives as men farmers are unable to take them seriously. Lisa and her friend’s knowledge was also dismissed when they were talking with an on-call vet from a university when he continued to question them over and over about the symptoms of a horse. Regardless of her friend’s expertise, she was not taken seriously. This resulted in Lisa making the following statement, “And I’m like, ‘I think he's questioning you based on the fact of your gender,’” The interaction with the on-call vet led Lisa to recognize the gender bias they faced while on call with the industry professional. Carla, Clara, and Lisa all had their agricultural knowledge in question due to their identity as women.

Gender bias from the agricultural community also impacts women agriculture teachers within their classrooms. A survey participant reported, “Working with certain vendors can be challenging when they

hear/see that you are a female.” Shelby recounts bias from a parent in her community, “He just worked with the marketing of crops It’s still not something I’m comfortable with teaching necessarily and... he was just like well why don't you do this, and why don't you do that.” The parent’s questioning undermines Shelby’s expertise and authority in her classroom. Pervasive gender bias within the agricultural industry can be seen having an impact on over half of the interviewed participants before and during their time working as an agriculture teacher through the quotes explored above. The final source of gender bias from the agriculture industry takes the form of stereotyping, the questioning of expertise, and disregarding the professional abilities of teachers.

Discussion

This research concludes gender bias continues to be prevalent for women agriculture educators throughout their careers. Interview and survey participants alike experienced gender bias from students, peers, and industry professionals. While the study sought to determine the sources of gender bias, the manner gender bias manifests in the industry was exposed as well. These are retaliation, disrespect, sexual harassment, cover gender bias, stereotyping, the questioning of expertise, and disregarding professional abilities. The findings of this research demonstrate how gender bias continues to prevail within agricultural education regardless of the gendered population shift within agricultural education (Baxter et al., 2011; Enns & Martin, 2015; Foster, 2003; Kelsey, 2006a, 2006b, 2007; Kleihauer et al., 2013).

A few important recommendations emerged from this study. First, given the experiences of the participants and the pervasiveness of gender-related bias across many areas of their profession, it is important these issues be discussed during teacher preparation programs with all students regardless of their gender (Kelsey, 2006b; Wakefield et al., 2006). The women in the study encountered gender bias from students, peers, and agricultural professionals – all of which are individuals that agricultural educators interact with regularly. Preparing potential teachers for the reality they may experience gender bias is necessary (Lundeberg, 1997). All students should understand the potential gender bias in their classrooms and must be prepared for how gender bias presents itself through retaliation, disrespect, sexual harassment, cover gender bias, stereotyping, the questioning of expertise, and disregarding professional abilities. All students regardless of gender should be included in changing the culture of SBAE to be more inclusive for women before they enter the classroom. This can only be done if they are appropriately educated on gender bias within their prospective career and are given the necessary tools to combat gender bias as well. Education and tools alone cannot alter the culture of agricultural education. As culture change can move slowly, this recommendation can support the individuals currently working towards entering the field.

Second, it is important to support women agriculture teachers once they enter the profession, both to retain them as teachers and to support their success and health. Support for teachers might take the form of training or professional development opportunities for teachers and administrators or the creation of supportive peer groups within the profession (Kelsey, 2007). As gender bias experienced by participants had similar sources, there is a common ground for women to create a sense of community for women agricultural teachers. This would enable teachers to have a supportive group to learn from, troubleshoot with, and continue to promote inclusive culture change among students, peers, and industry.

While the first two recommendations are essential in that they provide support systems for women in agricultural education, our final recommendation focuses on systemic change in agriculture. There needs to be widespread change within agriculture to support women within the field (Cline et al., 2019). Early research on women vocational agricultural education teachers focuses on aiding women though bias rather than suggesting change to patriarchal systems (Knight, 1987). Women cannot be expected to take full responsibility for changing the climate of agriculture as all people in the field can benefit from more inclusive practices. Both survey and interview participants experienced gender bias from the agricultural

industry with an alarming regularity. On a larger scale, organizations within agricultural education and the agricultural industry must evaluate their structures and priorities as it relates to women.

Because women are continuing to make up a larger proportion of agriculture teachers, it is important the researchers continue to investigate how gender bias impacts the agricultural education profession and how to support teachers in their success. The hope for this study is to be expanded upon in the future through a more geographically widespread survey to explore how region or state impacts gender bias experiences. An additional method of expanding upon this research would be to increase the scope of intersectionality within the study as it often remains unexplored (Leder & Sachs, 2019). Focusing on intersections such as race, ethnicity, Indigenous identity, sexuality, or expanding to include marginalized genders outside that of cisgender women would all provide invaluable perspectives when attempting to expand this research. The final way the research could be expanded upon is to explore the reasoning behind women exiting teaching positions in SBAE to understand the potential severity of gender bias in agricultural education. This recommendation was inspired by interview participant Carla, “There are negative sides and there have been some people leave education, but you're not going to interview them because we're not going to tell you those people because they're not around any longer.” Finding and speaking to women agriculture teachers who have left the career can provide an unseen perspective in gender bias research in agricultural education.

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