

Thematic analysis of comments from a survey on perceptions of gender bias among members of the American Association of Bovine Practitioners in bovine practice in the United States

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Abstract

The gender composition of food animal practice differs from other veterinary practice types, and women are relatively underrepresented in food animal practice. The reasons are unknown, and a possible factor is gender bias. There are no reports specific to bovine practice concerning the extent or perception of gender bias. American Association of Bovine Practitioners members in the US were invited to participate in an anonymous online survey regarding gender bias in bovine practice, and thematic analysis was performed on the free text comments. There were 207 responses (99 women and 108 men), which included over 1000 comment extracts that were coded in the thematic analysis. The most common themes associated with gender differences in survey comments were practices not wanting to hire women because of lack of strength or stamina, clients asking for the male veterinarian, and pregnancy- or children-related issues. The results of this thematic analysis support the assertion that gender bias exists in bovine practice in the US.

Key words: AABP, gender bias, private practice, hiring, job applications

Introduction

The percentage of women employed in veterinary practice in the US exceeded 50% for the first time in 2009.⁴³ Although some reports suggest that women and men have equal interest in food animal practice during veterinary school,^{3,18,23} after graduation men outnumber women in food animal practice, unlike small animal and equine practice. In 2019, in the US, the percentages of men in food animal exclusive, food animal predominant, and mixed animal private practice were 77.1, 74.3, and 56, respectively.⁶ This parallels the percentage of men among AABP members, which in 2016 was 69%.⁵

Reasons for the differences in gender composition among practice types are unclear. If the profession of bovine practice wishes to remain robust and successful, it is important to determine the factors that influence recruitment and retention, including those that are specifically related to gender. Gender differences are among the factors correlated with women's entry or retention in rural or food animal practice.^{35,46,47} However, gender was not included in the list of major factors influencing retention and recruitment of food animal veterinarians in another report.¹ Potential factors influencing recruitment and retention in practices with a food animal component include gender bias or discrimination.

Gender bias has been recognized in veterinary medicine and related fields, and for the purposes of this investigation, gender bias was defined as "when a member of one gender is advantaged or disadvantaged for the reason of their gender." In human medicine, there are many reports of gender bias and discrimination, with particularly egregious examples reported in medical schools and in surgical specialties.^{12,25,26} Animal and dairy scientists have reported perceptions of gender effects on hiring, salaries, and collaboration.¹³ Approximately 60% of women in agribusiness reported sexism or discrimination because of their gender in a 2019 survey.² Veterinarians report gender bias in small and large animal practice.⁸

More compelling perhaps than individuals' perceptions of bias was a controlled trial in 2018, which demonstrated that a fictitious veterinarian named "Mark" was consistently offered a higher salary than "Elizabeth" with the same resume by employers and managers in the UK who said they believed gender discrimination no longer exists, whereas the offered salaries were not different among the subjects who said they believed there is still gender discrimination. "Mark" was also perceived as more competent and therefore more likely to be offered managerial responsibilities.⁸

Discussions within the American Association of Bovine Practitioners (AABP) on the email listserv and among AABP

leaders have led to speculation about the extent and perception of gender bias among bovine practitioners because the published data in veterinary medicine are not specific to bovine practice. AABP leadership, therefore, decided to gather data about member perceptions and experiences. An online survey was developed, and survey responses were evaluated using thematic analysis to qualitatively describe AABP members' reported experiences related to gender bias in bovine practice. Thematic analysis is an approach to analyzing text-based data in a descriptive and non-grounded manner,¹⁰ with no search for latent or underlying meaning, and it was selected due to the sample size and investigative nature of the survey performed in this study. Additional statistical analysis to evaluate factors affecting perceived gender bias has been reported in another publication.²⁰

Methods

Survey Development and Deployment

Survey questions were developed with the goal of capturing perceptions about personal experiences in job seeking, hiring, and working as an associate or owner. Some questions were also modeled on institutional climate surveys and data in the literature on veterinary hiring. In the survey, the working definition of gender bias provided to respondents was "when a member of one gender is advantaged or disadvantaged for the reason of their gender".

Sections of the survey included:

- 1) demographic queries such as year of graduation, practice type, and gender;
- 2) hiring experiences in respondent's first and current veterinary job such as number of applications and interviews, barriers or disincentives to taking a job, reasons for taking or not taking a position, and reasons for leaving a position;
- 3) experiences as a veterinary practitioner of gender bias from employers, employees, clients or others on a scale from 0-10, with 0 being no gender bias perceived and 10 being constant and persistent;
- 4) experiences as an employer such as barriers to hiring, number of applicants for positions, and reasons veterinarians left.

Some questions were drop-down or radio buttons for selecting responses, and some were numerical. Free text options were available for many questions and at the end for any additional comments. Survey questions are available from the authors.

The survey was piloted on a convenience sample of bovine practitioners, and minor revisions were made to available responses. An invitation from the AABP president for veterinarians to participate in the survey was included in the May 2018 AABP newsletter (email and hard copy) and on the AABP listserv, and a follow-up notice was sent to the AABP listserv several weeks after the initial invitation. Students were excluded, but all veterinarian members of AABP were

eligible. At the time of survey distribution in 2018, there were 4116 AABP members. The link to the survey in the invitation was to the AABP website member log-in page to prevent non-members from accessing the survey, but identification was stripped from the data prior to analysis to maintain anonymity. The survey was deemed exempt from review by the Institutional Review Board at Kansas State University.

Thematic Analysis

As defined by Braun and Clarke,¹⁰ thematic analysis involves identifying, analyzing and reporting patterns or themes in data in order to identify repeated patterns of meaning. This approach makes no "implicit theoretical commitments" such as grounded theory or other theories, and it is "semantic" in that themes are identified via surface or explicit meanings, rather than looking for underlying or latent meanings. Thematic analysis does not require agreement among individuals because it is descriptive only, so one of the authors (VRF) developed the themes as described below.

Thematic analysis was performed on responses to a free-text question about encountering gender bias in veterinary practice, as well as on write-in responses about job seeking, hiring, leaving jobs, and careers. First, all comments were extracted from the survey responses, and the text was read multiple times. Then, initial codes, i.e., phrases that were thought to represent a theme, were generated. Those codes or phrases were reviewed multiple times, re-compared with the initial comments and adjusted, for example, to lump codes of the same nature together. This part of the process was performed with word processing software. During this process, extracts of comments were associated with each code, and each extract of text could have multiple codes. Codes were sorted into themes, some were re-coded to better characterize or lump themes, and this was performed iteratively and multiple times. The iterative nature of coding and re-coding then led to revisions and reorganization of themes as needed so that each code was unique and represented a single idea. Finally, extracts of comments by theme were entered into a spreadsheet and counted for an estimate of prevalence of each theme or subtheme. However, these prevalence estimates were not meant to be truly representative of prevalence but more to provide some evidence for the commonest of themes.

Results

A total of 207 survey respondents provided responses for all factors being evaluated and were included in the analysis, including 99 women and 108 men. The highest number of comments was submitted for the question on encountering gender bias, which 169 respondents answered, generating 555 separate coded extracts. The number of respondents who provided comments on other questions in the survey ranged from 10 to 169, leading to an additional 694 coded extracts.

Based on the thematic analysis, categories of themes were "Gender-related differential treatment or attitude"

(Table 1), “Reasons jobs are not offered/not accepted/left” (Table 2), and “Who is involved in differential treatment or jobs not offered/not accepted/left” (Table 3). An additional category of “Non-gender-related differential treatment or attitude” was also identified but had only 3 themes, with 1 instance recorded for each theme: reference to ethnicity, reference to LGBTQ+, and racist comments.

The themes with the highest numbers of comments in the category of “Gender-related differential treatment or attitude” were “Don’t want women: physical strength or stamina” (n=87) and “Don’t want women: ask for male veterinarian” (n=67). (Who was doing the asking for the male veterinarian was not always noted in the comment nor coded when included in the comment, but the majority of comments appeared to be referring to clients asking for the male veterinarian.)

When the acting party was indicated in either of the categories of differential treatment or jobs, clients were in-

dicated in 156 comments, and veterinarians were indicated in 75 comments. Comments in which both clients and veterinarians were involved were coded separately, so no count was made of incidences in which veterinarians and clients were both involved.

In the thematic category of “Reasons jobs not offered/not accepted/left”, the highest number of related comments were: “Salary/money” (n=126), “Work hours” (n=62), and “Fit or atmosphere” (n=56).

Discussion

Our results indicate the presence of gender bias in bovine practice based on qualitative analysis of our survey data. In addition, most of the themes found in the categories of “differential treatment,” “leaving or taking a job,” and “who is involved” in the perpetration of bias, resonate with previous work as outlined below.

Table 1. Themes and numbers of comments coded with the theme in the category of “Gender-related differential treatment or attitude” as extracted from written comments and response in a survey of AABP members in 2018.

<i>Don't want woman</i>	Physical strength or stamina	87
	Ask for male veterinarian	67
	Pregnancy- or children-related issues	39
	Religion-related theme	15
	Risk of injury	6
	Differential expectations about competence by gender	4
	Given “better” clients/given more rote work like palpation	4
	Client says woman shouldn't work outside the home	3
	Want woman to do emergency work while man/men do the calls	3
	Client will not interact with woman	2
	Client concern about discussing reproductive work with women	1
	Women create drama	1
	Offer withdrawn when other gender applied	1
	Lack of male vets	1
<i>Want woman</i>	Clients want woman for non- or niche food animal work	4
	Clients want woman	4
	Practice wants woman for small animal work	3
	Clients want woman for dairy work	1
<i>Attitudes</i>	Prove oneself/trust	20
	Is it gender or age?	7
	Reference to marital status	7
	Reference to appearance or dress	7
	Lack of self-confidence	3
	Assume gender-based species preferences	3
	Assume female is NOT vet	3
	Female listened to less often	2
	Different social relationships	2
	All women judged by experience with one	2
	Know the code	1
	Perception about caring	1
<i>Harassment</i>	Harassment/sexual comments	6
	Inappropriate touching	3
	Assume woman veterinarian is homosexual	1

Table 2. Themes and numbers of comments coded with the theme in the category of “Reasons jobs are not offered, not accepted, or left” as extracted from written comments and response in a survey of AABP members in 2018.

<i>Internal to the practice</i>	Salary/money	126
	Work hours	62
	Fit or atmosphere	56
	Practice model	25
	Ownership/buy-in	23
	No. of job offers/No job offered after interview	16
	Practice management	15
	Unethical or illegal practices	13
	Mentorship	10
	Emotional cost	9
	Lack of applicants	9
	Unmet promises	5
	Hired extern	5
	Fired	4
	High associate turn-over	3
	Practice closed	2
	Recruit specific hires	2
	Practice sold	1
<i>Reference to skill or competence</i>	Need for ability	43
	Need for knowledge	20
	Mismatch between client and vet expectations	11
	Communication/client relations	11
	Business knowledge	2
<i>External to the practice</i>	Other job opportunity	32
	Species breakdown in the practice	27
	Family or spouse needs	27
	Location	17
	Start or buy own practice	15
	Rural community/lifestyle	12
	Outlook for animal production	9
	Leave for residency or graduate work	7
	Retirement	4
	Social isolation	4
	Work visa or license issues	3
	Disability	3
	Caseload	2
	Regulatory or legal burden	1
Housing	1	
<i>Counterpoint</i>	Rewarding work	34

Differential Treatment

Within the thematic category of differential treatment (Table 1), the 3 most commonly cited themes were physical strength or stamina, asking for male veterinarian, and pregnancy- or children-related bias.

Theme of physical strength or stamina. In matters of physical strength, on average, men outperform women. However, in the modern era of widely available anesthetic drugs, understanding of animal behavior, and use of appropriate tools and equipment, women can compensate.^{36,41} In addition, the ratio of the 1000 lb (454 kg) animal to the average

size human is not meaningfully different if she weighs 120 lb (54 kg) and he weighs 200 lb (91 kg). This theme has been noted in ethnographic studies of veterinarians and their relationship with experiences in veterinary medicine.^{a,15} For example, veterinarians described sacrificing body and health for their patients.¹⁵ The focus on the physical also plays out in the perception of the likelihood of injury.²¹ Much of the literature regarding injuries among food animal veterinarians does not evaluate differences between men and women for musculoskeletal injuries,^{14,30,33,39,42,51} However, a few studies have compared injury rates among men vs women. Studies showing increased injury rates or risk of injury due to job-

Table 3. Themes and numbers of comments coded with the theme in the category of “Who is involved in the differential treatment or jobs gone bad (not always identified)” as extracted from written comments and response in a survey of AABP members in 2018.

On the part of the client (both or gender not identified)	120
On the part of veterinarian(s) (both or gender not identified)	41
On the part of the male client	36
On the part of male veterinarian(s)	34
On the part of clinic staff	8
On the part of the female client	7
On the part of the male client’s wife	4
On the part of female veterinarian(s)	4
Support from the profession	4
On the part of the veterinarian’s wife	2
Vets worse than clients	1

specific tasks among women as compared to men included average number of years before pain was noted during rectal palpation,⁴⁰ probability of cumulative trauma from rectal palpation,⁹ and likelihood of injury during calf extraction.⁴⁰ On the other hand, men in farming settings have been reported to be more likely to be injured by livestock.¹⁹ The literature on bovine veterinarian injuries must be interpreted in light of individual skills, techniques, and available facilities when considering the complex daily interactions between veterinarians and their patients.

Theme of asking for male veterinarian. This theme from our survey is corroborated by the report that more female than male veterinary surgeons believed that their gender impacted client interactions, although whether for the better or worse was not included in the question.³⁴ Some of the sub-themes within this theme have not previously been described, at least in the studies on veterinary medicine: “religion-related theme,” “client says women shouldn’t work outside the home,” and “client will not interact with women.” We speculate that some of these sub-themes may stem from practitioners in regions of the country with farmers or producers of particular religious groups, but because we did not ask for location or producer type in the survey, this cannot be confirmed. However, by agreeing with what might be client wishes for a man, male veterinarians may reinforce and condone the bias.¹⁵

Theme of pregnancy and children. This theme is echoed in other studies about child-bearing among female veterinarians as well as how children impact work life. The idea that pregnancy and children are problematic is reflected in unequal sharing of caring responsibilities (i.e., children and elders).¹⁵ Female veterinary surgeons >36 years of age were less likely to have children than men of the same age, and female large animal surgeons were less likely to have children than small animal surgeons.¹⁶ In the same survey, female surgeons with children worked fewer hours per week than

those without children, and more women than men required childcare services, since more men than women had a spouse or partner who stayed home with the children.¹⁶ Interestingly, despite the perception that having children would negatively impact their careers, the analysis showed that after adjusting for age, years in practice, and relationship status, parenthood did not reduce income or career satisfaction.¹⁶

Similar to our findings, in human medicine a common theme of pregnancy- and childcare-related bias has been reported.³⁷ In addition, a recent survey of veterinary mothers in the US reported similar discrimination and unequal treatment based on maternal status, including a higher prevalence of unequal treatment among large animal veterinarians when compared to other practice types.⁵⁰

Theme of prove oneself/trust. As reported in other studies, this theme is a common one among women veterinarians. The perception of the need to prove oneself as a woman appears to begin in veterinary school: women students report higher expectations in almost all characteristics related to “success” as compared to men,²⁹ suggesting that students are accurately perceiving their need to prove themselves early in their veterinary careers. Female students did not appear to consider this a disadvantage, or perhaps just did not question it.^b If the question is whether this occurs only in women veterinarians, or is it also true for women in related fields, we can look to women in agribusiness. They also report others doubting their ability, knowledge or skills (66% of respondents),² as do women in medicine.³⁷ Clarke and Knights argue that veterinary medicine remains a male-oriented profession, whereby human dominance over animals also plays out in male-predominance and male orientation in professional practices and rewards, meaning that women must prove themselves worthy.¹⁵ Although our data suggest that the theme of proving oneself worthy is prevalent, we do not have the qualitative data needed to determine where the theme originates or whether it is associated with a male orientation in the profession.

Leaving or taking a job

Within the thematic category of differential treatment (Table 2), the 3 most commonly cited themes were salary/money, work hours, and fit or atmosphere.

The themes found in the present study about why veterinarians stay in or leave rural practice jobs track with many of the factors reported in surveys of leaving or staying in rural practice. A survey of rural practitioners in the US identified factors as being of high importance in both accepting a first job in rural practice and for leaving rural practice.⁴⁷ When taking a job in rural practice, more men than women ranked the factors of potential for practice ownership and “family concerns” to be of high importance. On the other hand, more women than men ranked the factors of emergency duty and time off to be of high importance. Men and women were significantly different in the proportion ranking the potential for emergency duty, benefits, and time off as highly important. When highly important factors for leaving rural practice were evaluated, women were significantly more likely to indicate practice atmosphere, mentorship, staff conflicts, and “gender issues,” where 22.8% of female respondents reported gender issues as being highly important in their decision to leave.⁴⁷ Salary and benefits as a factor for choosing rural practice did not differ between men and women respondents in another survey which included both graduate veterinarians and students.⁴⁶

Theme of salary/money. Money or salary was noted as a theme in the present study, which corroborates the findings from other studies. Our assumption in the present study, when not specifically mentioned, was that jobs were left or not taken because the salary was too low, not that it was too high. In another study, salaries for bovine practice jobs are reported to be 23% higher for male than female bovine practitioners.⁵ Given that debt is higher for women than men, even controlling for graduation year,⁵ this might be a driver for choosing another practice type. On the other hand, at least during veterinary school, women and men have been reported to have similar expectations about starting salaries, although men had higher expectations about salary increases over time.¹¹ Salaries across practice types are lower for women than men,⁴⁴ so it is not clear if raising salaries for women would result in better recruitment to rural or food animal practice. Salaries for new graduates in food animal-exclusive jobs are similar to the average for any private practice job (not reported by gender), but salaries are lower for mixed animal jobs than for other practice types.⁷

Theme of work hours. The theme found in the present study of excessive working hours as a reason for leaving or not taking a job is corroborated by data from the Andrus study in 2006, in which a major factor reported for leaving food supply veterinary medicine was a desire for a more balanced lifestyle.⁴ Differences between genders among AABP members in desire for more or fewer hours have been reported: 26% of

women would like to work fewer hours as compared to 16% of men; however, 17% of women would like to work more hours if compensation were increased as compared to 12% of men.⁵ Other studies have reported work hours as a factor for students when evaluating professional options, although gender differences were not examined in these studies.^{22,32} Undergraduate women report being concerned about work hours as a reason for avoiding veterinary medicine.¹⁸

Whether these expectations about work hours came from men or women was not examined in our thematic analysis, but expectations about hours worked have been proposed to be related to the gendered nature of the profession, in which the prevailing norm is long hours and work is the major priority.¹⁵ This expectation is considered gendered because childcare duties still fall predominantly to women, even in mixed-gender couples in which both parents work full-time,^{16,24,45} so the expectation of working long hours is more likely to be fulfilled by men than by women. It is important to identify desire for work-life balance and work hours as potentially both a gender issue and a generational issue, while still acknowledging that some generational myths are only perceptions and not reality.²⁷

Theme of practice ownership. Differences among men and women related to practice ownership have been noted previously. Expectations of practice ownership have been reported to differ between men and women, with 74% of men vs 49% of women expressing an interest in practice ownership when they were surveyed in the first year of veterinary school.¹¹ In addition, an ethnographic study proposes that internalization of the stereotypical male breadwinner role means male students are more likely to assume that practice ownership is in their future.^c

Theme of rewarding work. Many of the references to the rewarding work of bovine practice in this study were in the comments about whether the respondent would recommend this type of work to aspiring veterinarians. Although this was mentioned by some respondents, it is a distinct counterpoint to some of the other themes in this category of leaving or not taking a job. The lack of reward has been reported in a recent survey, in which fewer than half of veterinarians say they would recommend veterinary medicine as a career.⁴⁸ When gender is a factor, women undergraduates have reported being discouraged by a veterinarian as a reason for avoiding veterinary medicine.¹⁸ Veterinary students may change their attitudes during veterinary school, based on the findings of a study in which the appeal of rural lifestyle, work-life balance, and interprofessional teamwork decreased from the start to the end of veterinary school.²³ However, long-term veterinarians in food animal practice reported being satisfied with their jobs, and only chose to leave food animal practice for a more attractive opportunity.⁴ Furthermore, veterinary students looking for intellectual challenge believed food animal medicine would provide it.²¹

Other themes in job-related comments. Whether gender-related or not, the themes related to spousal career options have been reported before in the context of selecting rural or food animal practice.^{1,38} Economic modeling suggested that rural practice is less attractive than non-rural practice to both genders, and that the aversion to rural practice among women has increased over time, leading to a greater percentage of male than female veterinarians in rural practice.⁴⁹

Respondents commented on several themes related to non-technical skills of veterinary graduates, e.g., business knowledge, communications/client relations, and mismatch between client and veterinary expectations. These comments are interesting given that a survey of faculty at 5 North American veterinary colleges found that female faculty were more likely to agree with the need for the development of skills such as business skills, interpersonal management, and critical thinking during veterinary school than male faculty.³¹

Who is involved (clients, veterinarians, others)

When the perpetrator of bias or other behaviors was identified, clients (sometimes specifically noted as male clients) were most commonly noted (156 instances), followed by veterinarians (75 instances). There are few data on veterinary clients and bias, with 1 related to small animal clients^d and 1 being a small study of 75 veterinarians in the UK,²⁸ only some of whom were large animal practitioners. More women than men in a survey of veterinary surgeons indicated their gender affected client interactions,³⁴ but because the question did not include whether it was positive or negative, the consequences are unclear. This is an area bearing further investigation, especially in the context of clients' religious issues related to gender of their veterinarians; as listed in Table 3, religion-related preference for male veterinarians was recorded in the present study.

Limitations of our study

The wording of some of the survey questions about gender bias did not always permit us to say whether the bias was against or toward either gender, although this was sometimes clear within the free text responses. In addition, during the thematic analysis, which was meant to be exploratory and descriptive rather than quantitative in nature, gender of the commenter was not identified during coding. Given the descriptive nature of these data, we are also not able to speculate about the origins of or reasons for the themes, nor can we estimate their true prevalence among bovine practitioners of any gender. However, regardless of the gender of the commenter or the origin of the sentiment underlying the theme, these data point to the presence of gender bias in bovine practice. The prevalence and presence of gender bias should be addressed by the profession both as an issue of fairness and justice as well as an issue of sustainability of bovine practice, given the prevalence of women in the profession overall.

Very few comments were related to LGBTQ+ issues, but they did not fall under any other theme and it is therefore included as a separate theme. It is unknown if these issues were not addressed in comments because they were not specifically asked, or if the subject of sexual orientation and sexual identification is taboo. Additional work is needed to address bias related to these issues.

Conclusion

Thematic analysis of the free-text comments from a survey of AABP members about perceptions and experiences with gender bias revealed themes that echo previous reports about gender bias and gender issues in veterinary practice as well as other professions. Additional data are needed to further investigate these themes to determine their incidence among a larger sample size of bovine practitioners. Given that women make up 80% or more of graduating veterinarians and that there appears to be issues of gender bias as reported in the present analysis, it appears that recruitment and retention of women in bovine practice may be a critical control point in maintaining the robustness of rural and bovine practice; therefore, gender-related factors for choosing practice types should be further evaluated to determine what actions might be effective. Rising numbers of women in food animal practice may not necessarily lead to reduction in bias.¹⁷ But perhaps most importantly, the first step is to recognize that the present study demonstrates that gender bias is real and exists in bovine veterinary practice, both within our profession and among our clients. The reaction of the profession and of bovine practitioners to the reporting of gender bias is not only critical for the economic survival of rural mixed animal practice, it is likely to be important to the careers, health, and wellbeing of those practitioners.

Endnotes

^aVermilya JR. Tracking "Large" or "Small": Boundaries and their consequences for veterinary students within the tracking system. Dissertation, 2019, University of Colorado-Boulder

^bVermilya JR. Tracking "Large" or "Small": Boundaries and their consequences for veterinary students within the tracking system. Dissertation, 2019, University of Colorado-Boulder

^cVermilya JR. Tracking "Large" or "Small": Boundaries and their consequences for veterinary students within the tracking system. Dissertation, 2019, University of Colorado-Boulder

^dJames AEE. Is professional knowledge gendered? Clients' role in the gender pay gap problem. Ann Arbor: The University of Chicago, 2017

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