Gender differences in salary and practice ownership expectations of matriculating veterinary students

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Objective—To examine gender differences in initial and long-term salary and practice ownership expectations among first-year veterinary students.

Design—Survey.

Sample—First-year veterinary students at the North Carolina State University College of Veterinary Medicine during 2000 through 2003 and 2005 through 2009.

Procedures—A 1-page survey was distributed to students during orientation exercises or on the first day of a first-year course on ethics and jurisprudence. Students were asked to indicate their expected salary at graduation and in 5-year increments after graduation and to indicate whether they expected to own a practice after graduation.

Results—Responses were obtained from 567 female and 120 male students. There was no significant difference in initial salary expectations between male and female students. However, men had higher expectations for salary increases over the course of their career, so that expected salary was significantly higher for men than for women 5 years after graduation and beyond. A significantly greater percentage of men (69/93 [74.2%]) than women (242/499 [48.5%]) indicated they expected to own a practice.

Conclusions and Clinical Relevance—Although male and female veterinary students had similar expectations with regard to initial salaries, the male students had higher long-term salary expectations and were more likely to indicate an expectation to become a practice owner. Differences in expectations may lead to differences in behavior when those expectations are or are not met. (J Am Vet Med Assoc 2011;239:329–334)
to be motivated to negotiate with his or her employer for a higher salary than if expectations had not been met. Similarly, a practice owner who is earning what he or she expects to earn will be less motivated to change practice economic factors to generate more personal income than someone whose earnings expectations are not being met.

The fact that women often report being happier in their careers than do men in the same careers despite women’s lower salaries has been termed the “paradox of the contented female worker.” Because women’s expectations are lower, they are more likely to be met. There have been numerous reasons given for why women have lower salary expectations than do men. In the absence of feedback, women tend to devalue their own performance relative to men. They also are more likely to attribute their success to external factors. Women and men also differ in what they think others in their fields are earning, with men predicting higher salaries than women predict.²

In 1999, the author attended a Gender Issues forum at the AVMA annual convention, during which presenters indicated that women veterinarians were making less than men and that they were also happier, despite making less. During the question-and-answer section, a woman practitioner in the audience commented that “We’re happier making less until we find out we’re making less; then, we’re not so happy.” As a veterinary educator, that was an enlightening moment, as it sparked the realization that veterinary students were probably unaware of gender disparities in earnings in the veterinary profession. Although starting salaries are published annually in the Journal of the American Veterinary Medical Association, salaries for veterinarians who are more advanced in their veterinary careers are not as easily found. It is important that students be educated in both the scientific and nonscientific aspects of veterinary careers, including typical salaries in various fields over time.

The study reported here was initially conceived as a learning exercise that would allow students to relate their salary and business ownership expectations to economic data on the profession as a whole. Studies of gender differences in negotiation behavior have shown that when the opportunities and limits of a negotiation are clear, men and women will negotiate to similar end points. However, when there is substantial ambiguity, situational cues elicit different behaviors by men and women, resulting in men negotiating to higher outcomes.³ It was hoped that by educating particularly the female students about gender differences in salary expectations as well as actual salaries later in veterinary careers, the ambiguity surrounding future salary negotiations would be diminished, hopefully improving the students’ personal economic situations.

Information presented in this report was not the result of a formal research project per se, but rather represents data accumulated through 9 years of classroom and orientation exercises with matriculating veterinary students. The purpose was to examine gender differences in initial and long-term salary and practice ownership expectations among those students.

Materials and Methods

From 2000 through 2009, with the exception of 2004, a 1-page survey was distributed to first-year veterinary students at the North Carolina State University College of Veterinary Medicine, either during orientation exercises or on the first day of a first-year course on ethics and jurisprudence. In addition to other questions, the survey asked students to indicate their expected salary at graduation and in 5-year increments after graduation (the 2000 survey asked for salary estimates over a 20-year career, whereas all succeeding surveys asked for estimates over a 30-year career) and whether they expected to own a practice after graduation and, if so, how many years after graduation they expected to enter an ownership position.

Each year, the class results were compiled and presented back to the class, along with data from previous classes and AVMA data on actual salaries in the profession. For the present report, results were compiled for all classes. Data were corrected for the impact of inflation with the Bureau of Labor Statistics consumer price index online calculator.⁴ Whenever students indicated a range of values for a given answer, the mean of the range was used for that value. For instance, if a student wrote that he or she expected to own a practice “between 5 and 10 years after graduation,” a value of 7.5 years was used for that student. Differences in salary expectations, expectations for practice ownership, and time after graduation to become a practice owner were calculated for male and female students.

Expected career earnings were calculated from the students’ salary expectation data. Expected annual salaries for times between the stated 5-year increments were estimated by interpolation. A constant rate of increase, rather than a constant amount of increase, was used to estimate expected annual salaries during each 5-year increment. The formula used to calculate the rate of increase was as follows:

\[
\text{Rate} = \frac{\text{ending salary}}{\text{initial salary}}^{\frac{y}{5}} - 1
\]

where \( y \) represents the number of years in the period, ending salary represents the salary expected at the end of the increment, and initial salary represents the salary expected at the beginning of the increment.

A 2-tailed \( t \) test was used to compare salary expectations between male and female students and time after graduation to become a practice owner, and a \( \chi^2 \) test was used to compare the proportion of male students who expected to own a practice after graduation with the proportion of women who expected to do so. For all analyses, values of \( P \leq 0.05 \) were considered significant.

Results

Five hundred sixty-seven female and 120 male students participated in the class exercises. There was no significant difference in initial salary expectations between male and female students (Table 1). However, men had higher expectations for salary increases over the course of their career, so that expected salary was significantly (\( P < 0.01 \)) higher for men than for women.
However, men who did not expect to own a practice an
than did those who did not expect to own a practice.

Mean salary ($)

Males

<table>
<thead>
<tr>
<th>Years after graduation</th>
<th>No.</th>
<th>Expected salary ($)</th>
<th>Accumulated earnings ($)</th>
<th>No.</th>
<th>Expected salary ($)</th>
<th>Accumulated earnings ($)</th>
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Females

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<th>Accumulated earnings ($)</th>
<th>No.</th>
<th>Expected salary ($)</th>
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A survey was distributed to students during orientation exercises or on the first day of a first-year course on ethics and jurisprudence, and
students were asked to indicate their expected salary at graduation and in 5-year increments after graduation and to indicate whether they ex-
pected to own a practice after graduation.

Table 1—Mean salary expectations of male and female first-year veterinary students at the North Carolina State University College of Veterinary Medicine during 2000 through 2003 and 2005 through 2009.

Table 2—Comparison of mean salary expectations and practice ownership expectations for male and female first-year veterinary
students at the North Carolina State University College of Veterinary Medicine during 2000 through 2003 and 2005 through 2009.

5 years after graduation and beyond. On the basis of the
students' salary expectations, at the end of a 30-year career,
men would be earning $41,132 more than women and
men and women would have earned a total of $600,330 more
during their career than women.

A $100,000 salary (uncorrected for inflation) appeared
in an expected ceiling for more women than men. Only 12% of
women, versus 30% of men, expected to be earning at least $100,000 ten years after graduation. Although 41% of men expected to be earning at least $100,000 fifteen years after graduation, the same percentage of women did not expect to be earning that
much until 25 to 30 years after graduation.

Four hundred ninety-nine female and 93 male students
responded to the question asking whether they expected to become a practice owner. A significantly (P < 0.001) greater percentage of men (69/93 [74.2%]) than women (242/499 [48.5%]) indicated they expected to own a practice. Two hundred twenty-four female and
59 male students indicated the time after graduation they expected to become an owner. Time to become a practice owner was not significantly different between men (mean ± SD, 7.9 ± 3.9 years) and women
(8.4 ± 3.9 years).

For both male and female students, those who expected
to own a practice anticipated higher peak salaries
than did those who did not expect to own a practice. However, men who did not expect to own a practice anticipated earning more than did women who expected to own a practice (Table 2). Men who indicated maybe or unsure to the question of whether they expected to
own a practice had the lowest expected earnings of all
groups, but there were only 5 men in this group.

Discussion

Results of the present study suggested that although male and female first-year veterinary students had similar expectations with regard to initial salaries, the male students had higher long-term salary expectations and were more likely to indicate an expectation to become a practice owner. When asked to predict salaries 3 years after graduation, the male students expected, on average, to earn $9,095 more than the female students did. This difference increased with each successive 5-year period, so that the men expected, on average, to earn $41,132 more than the women expected
to earn 30 years after graduation. Looked at another way, if men and women earned what they predicted, women would have to work more than 34 years to earn what men did in 30 years. The true difference in salary expectations at 30 years was probably even greater than indicated because some of the individuals predicting the highest salaries indicated they would retire prior to the 30-year mark and did not enter expected salaries after their predicted retirement. The increasing disparity in male and female income expectations with longer times after graduation and the differences in practice ownership expectations are quite similar to what has been published previously about the actual increasing disparity in veterinary incomes with time after graduation and gender differences in practice ownership.7
Gender differences in salary expectations, salary negotiation behaviors, first-job choice, and salaries obtained are particularly important when one considers that on average, women graduate from veterinary college with higher educational debt than men do. For example, mean educational debt for women who graduated in 2008 was $109,235, compared with a mean educational debt of $105,008 for men who graduated that year. When only those graduates with debt were considered, the figures were $121,006 for women and $113,059 for men. Nationally, 9.2% of males and 9.1% of females who graduated in 2008 had > $180,000 of debt. The combination of higher debt and lower salary for female veterinarians is particularly troublesome because it puts them at higher financial risk. From a purely financial perspective, it is important to negotiate for the highest possible initial salary because initial salary impacts lifetime earnings and even the potential for promotion. The fact that raises are usually based on a percentage of current salary will result in tremendous earnings differentials over time between those with higher and lower initial salaries. It has been noted that men are much more likely to negotiate for a higher initial salary and to negotiate for raises more frequently. The study reported here suggests that even if men and women have the same initial salary expectations, lifetime earnings may vary greatly because men expect larger raises. This higher expectation may be the reason men negotiate more frequently.

The finding of minimal differences in initial salary expectations versus significant differences in expected salaries later is similar to the results of a recent study of undergraduate students. Job intention and selection of a career in a male-dominated versus a female-dominated segment of the workforce significantly impacted salary expectations. Women were more likely to select female-dominated careers, and men were more likely to select male-dominated careers, with the result that male undergraduates had higher initial salary expectations than female students did. After controlling for job intention, gender was no longer predictive of a difference in starting salary expectations, yet remained a predictor of peak salary expectations. The same study found that salary expectations of women entering male-dominated careers were higher than those of women entering female-dominated careers, although men entering female-dominated careers did not lower their salary expectations to the same extent that women entering male-dominated careers raised theirs. It is unknown how the recent transition of veterinary medicine from a male-dominated to a female-dominated profession might be impacting students’ salary expectations.

The fact that men in the present study who did not expect to own a practice still anticipated earning more than women who expected to own a practice is consistent with results of AVMA surveys on veterinary compensation. The AVMA survey results indicate that during 2007, male associates earned more than female owners, regardless of time since graduation, except during the first 1 to 2 years after graduation, when there was minimal difference between these groups. Comparing student expectations with survey salary data indicates that both male and female students consistently underestimated potential earnings as practitioners, particularly practitioners in ownership positions.

Career choice can have a profound impact on earnings. In 2008, 38% of female graduates and 28.7% of male graduates entered internships, with a total of 42.2% of female graduates versus 33% of male graduates entering some form of advanced study. Given that salaries in advanced study programs are typically much lower than starting salaries in clinical practice, this difference in initial career choice contributes to observed gender disparities in overall starting salaries. The AVMA data on initial career choice contrasts with data from the Association of American Veterinary Medical Colleges, which indicated that during the 2008–2009 academic year, 21.7% of senior students were males, 33% of interns were males, and 38% of residents were males. This would seem to indicate that a higher percentage of males than females were entering internships. There are several possible explanations for this apparent discrepancy. Whereas the AVMA data were self-reported by senior students and included any type of internship, the data from the Association of American Veterinary Medical Colleges were restricted to internships located at veterinary colleges. This suggests that males may be preferentially selecting academic internships, while women preferentially select private practice internships. Alternatively, more males may be entering internships later in their careers, rather than immediately after graduation. If males and females are applying to academic and private practice internships at the same rate, then colleges and private practices, on average, may be selecting interns differently, so that men and women are differentially advantaged in the selection processes. Unfortunately, the American Association of Veterinary Clinicians, which runs the internship and residency matching program, does not collect data on the gender of applicants, so it is impossible to determine whether there is a difference in success rates in applications for internships filled through their matching program or to track whether there is a gender difference in selection of men and women for private practice versus college-based internships. In addition, there is no source of data for intern selection by training programs that are not part of the American Association of Veterinary Clinicians’ matching program.

Data on internship and residency application and success rates could be important to veterinary educators. Data from the Association of American Veterinary Medical Colleges indicating that the percentage of residents who are male is higher than the percentage of interns who are male could indicate that there are gender differences in application rates or success rates for residencies. If success rates are comparable, then a lower percentage of women who complete internships are applying for residency training. This difference could indicate there are differences in why men and women are entering internships. A greater percentage of men may be entering internships as the first step toward specialty certification. If a higher percentage of women than men are entering internships because of a desire for a year of intensely mentored clinical training before entering practice, this could indicate a difference in confidence levels of male and female graduates, which would indicate a need to reexamine how colleges of veterinary medicine are teaching students. Ideally, all graduates, regardless of gender, should have the confidence to
enter practice careers at the time of graduation. Confidence in one’s ability is likely to strongly impact expected remuneration. Further studies on application and success rates and on the motivations behind initial career choices are needed to make these determinations.

Over the 10 years during which data were collected from students for the present study, only 1 student, a woman, indicated an early expectation of an increasing salary, followed by a plateau associated with “starting a family,” followed by further increases in expected salary. Although no other students made similar comments, time needed to start a family is likely to be a greater concern among female students than male students. Although women have made great strides in the workplace, they continue to do more of the household chores and perform more of the child-related activities than men do. For example, a Bureau of Labor Statistics news release on activities of married men and women with children under 18 indicated that when both are employed full time, women spend an average of 4.17 h/d on household activities, caring for household members, purchasing goods and services, and travel related to child care, while men spend an average of 2.73 h/d on the same activities. In contrast, men spent more time on work-related activities (5.98 h/d for men vs 5.14 h/d for women). In an analysis of the American Time Use Survey, the authors found that the gap between men and women on time spent on childcare was largest when children were young. Although the authors did not analyze the impact of doctoral degrees, increasing parental education increased the amount of time parents spent with their children. However, it had a greater impact on time spent by women, so that the gap between women and men with regard to time spent with children increased with parental educational attainment, at least through attainment of an undergraduate degree.

Because salary increases are usually based on a percentage of the previous year’s salary, any plateau in salary will have long-lasting effects on lifetime earnings. If a man and a woman both have a $50,000 starting salary and receive 4% annual raises, but the woman accepts 5 years of static salary during years 6 through 10 while starting a family, the accumulated earnings difference over a 30-year career will be $345,329. If the woman takes 5 years off with no salary during years 6 through 10 and returns at her previous salary, while continuing to earn 4% annual raises, the difference in accumulated income will be $791,624. There are a number of reasons a woman may not demand a higher salary after being out of the workforce while starting a family. For instance, she may not consider the eroding effect of inflation on her previous salary, or she may be concerned about demanding a higher salary if she thinks she will need time off for child-related reasons. There is also the potential of decreased confidence in her clinical skills after a hiatus from the workforce.

In the book, “Why Gender Matters: What Parents and Teachers Need to Know about the Emerging Science of Sex Differences,” Dr. Leonard Sax points out that a basic reason why boys are more likely to engage in physically risky activity is that boys systematically underestimate their own abilities, while girls systematically underestimate theirs. Gender differences in estimation of one’s capabilities is not limited to the physical realm. On average, girls outperform boys in school, as measured by report card grades, in most subjects and in most age groups. Therefore, one would logically expect girls to have higher academic self-esteem. Paradoxically, girls are excessively critical of their academic performance, whereas boys are more likely to overestimate their academic abilities. At North Carolina State University’s College of Veterinary Medicine, from its opening in 1981 until the fall of 2008, the mean grade point average for all female attendees (n = 1,417) was 3.30, versus a mean grade point average of 3.23 for all male attendees (510). Although the difference is minimal, the logical expectation would be that women would have at least as much confidence in their skills as men. Given the studies previously mentioned, this may not be the case.

Previous studies have found that women expect to earn less than men in the same jobs, both at career entry and at career peak. While an obvious generalization, it has been stated that in determining a fair salary, women tend to think more about what they need, rather than what they are worth. In addition, they tend to make the wrong comparisons when examining their own salary. Because professional networks are often gender segregated, women tend to compare their salaries with the salaries of other women, instead of with the salaries of all persons performing similar work. Thus, a gender disparity may not come to their attention. Women also have less of a sense of entitlement. In research studies, when given the opportunity to decide their own pay, women paid themselves less than men. In addition, women paid themselves less than they would pay other women for the same work, even though they evaluated their own work as equal to the work of the others they were paying. There are business costs to women underestimating their value that could be critical to the future of the veterinary profession as women become a significant majority of practitioners. In starting a new business, women undervalue not only themselves, but also their businesses. Because of this, they request and receive less starting capital. This has been suggested as one reason their businesses are more likely to fail.

Male and female veterinary students differ in their opinions on the importance of specific characteristics in determining success. When asked to rate the importance of 24 characteristics related to success, there were significant gender differences found for 14 traits. In all cases, these differences reflected that fact that women rated those characteristics as more important than men did. In fact, of all 24 traits, there were only 3 that men ranked higher than women (business management skills, leadership contributions to the profession, and financial success), but none of these differences were significant. Although not examined by the authors of the study, it would be interesting to know how the study’s participants rated themselves on the selected traits, compared with the importance they assigned to those traits. Because men attributed less importance to almost all traits, compared with women, we do not know whether men and women were applying different
scales to the importance of the traits or whether women really think the traits are more important and thus set higher standards for themselves. Assuming men and women perform at the same level, if women think these traits are more important than men do, then women’s ratings of their own performance might be lower than men's ratings because they think the trait itself is more important. If perceptions of the importance of characteristics of success influence one's self assessment of performance and if one's self assessment of performance influences one's salary expectations, then gender differences in perceived importance of characteristics of success could be contributing to differences in what men and women think they should be paid.

Women are the future of the veterinary profession. During the 2009–2010 academic year, women represented 77.5% of veterinary students enrolled in the United States. It is critical that their practices be financially successful if the profession is to remain strong. Therefore, it is imperative that veterinary colleges assume the responsibility for educating all students about the financial aspects of veterinary careers, including the impact that sociologic factors might have on their salary expectations and therefore their financial health. The classroom exercise that led to the present study was developed in the hope that it would have more of an impact on the students and their expectations than would a lecture on sociologic influences on behavior.

References

1. AVMA. AVMA report on veterinary compensation. Schaumburg, Ill: AVMA; 2009:82.