Veterinary students are willing to accept job flexibility by trading off some salary

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OBJECTIVE
To determine the value veterinary students place on nonpecuniary job benefits related to working arrangements.

SAMPLE
381 companion animal–focused veterinary students at 14 US veterinary colleges.

METHODS
We employed a survey with a choice-based conjoint experiment. The experimental data were analyzed with a random parameter logit model, from which willingness to accept was calculated.

RESULTS
The results indicated that students would prefer working 4 days a week and closer to 40 hours per week, with 13 days of paid time off. Flexible working arrangements were valued from approximately $1,500 to $3,400, depending on the attribute being analyzed. Paid time off was most highly valued.

CLINICAL RELEVANCE
These results will help employers better identify the current preferences of soon-to-be associate veterinarians and can match job offer/working arrangements to enhance recruitment and retention within veterinary practices.

Keywords: veterinary students, job preferences, salary, job flexibility, choice experiment

Labor force participation rates in the US have experienced a downward trend over the past decade, influenced by natural business cycles and demographic shifts, notably the retirement of Baby Boomers. Veterinary medicine reflects this trend, finding itself at a critical juncture where the recruitment and retention of valuable employees are paramount, given the considerable costs associated with turnover. Since 2017, there has been a notable increase in starting compensation and signing bonuses for new veterinary graduates, both in nominal (no inflation adjustment) and real (inflation-adjusted) terms. However, while monetary incentives remain significant in attracting and retaining talent, the role of nonpecuniary benefits cannot be overstated.

The composition of the veterinary workforce has seen a shift, with Millennials surpassing Gen X’ers and Baby Boomers in representation since 2021. However, with Gen Z on the cusp of entering the veterinary workforce, it is crucial to understand the job preferences of these upcoming veterinary graduates. Such preferences are likely influenced by individual life circumstances rather than solely by other factors like age, location, or education.

Traditional considerations such as salary, health insurance, vacation days, retirement benefits, and continuing education allowances have long been central in assessing job offers for veterinary graduates. However, a more nuanced understanding is required, particularly regarding nonpecuniary benefits associated with work flexibility within veterinary medicine. Thus, this study aimed to estimate the appeal of work flexibility benefits among current veterinary students through a choice-based conjoint experiment. By evaluating the monetary trade-offs associated with attributes such as the number of days worked, hours per week, and paid time off (PTO), we aimed to provide insights into the preferences of soon-to-be veterinarians. While our focus was on work flexibility, this framework lays the groundwork for the analysis of other job benefits in future research endeavors.

Methods
To investigate job benefit preferences and professional expectations of companion animal–focused
veterinary students and soon-to-be graduates, a 2-part survey was created that focused on income, work environment, work-life balance, and mental health resources. The initial portion of the study focused on general demographic questions and was preceded by a brief description of the study along with a question requiring respondents to consent to participation. The study was approved by the Cornell University Institutional Review Board.

The second part of the survey was a choice-based conjoint experiment in which participants were asked to make choices about which type of job offer they would be willing to accept given 2 options. There was always a third option available in which they could choose neither job offer. The choices varied by salary, number of annual paid vacation days, average number of workdays per week, average number of hours they were expected to work each week, and whether or not they were required to work at least 1 weekend per month. A main-effects, fractional-factorial experimental design was used for 4 attributes at 3 levels and 1 at 2 levels. This resulted in 20 questions. The questions were split into 2 orthogonal blocks, 1 with 11 questions and 1 with 9. Participants were only presented with 1 block of questions. The questions were randomized within each block in the order they were presented. A sample of the choice questions is presented in Figure 1.

Students were also asked about what else they would like to learn regarding their potential jobs and benefits. By better understanding which topics to cover in future research and education, educators can help prepare students for more sustainable careers. This single question was open-ended. We categorized the responses into larger groupings for ease of discussion.

The sample for this study was collected among veterinary students at various US colleges of veterinary medicine. Study participants received a link that was distributed to American Association of Veterinary Medical Colleges faculty members at each of the schools from December 2022, with 2 reminder emails to collect additional samples through March 2023. Students were incentivized to participate by being given an option to enter a raffle for a chance to win a $50 Amazon gift card. Sixty participants were randomly selected at the conclusion of the study by use of a random number generator and were awarded the gift cards. Personal identifying information (eg, email address) was only collected on a voluntary basis from participants who wanted to participate in the raffle.

### Analysis of choice-based conjoint experiment: random parameters logit model

The random parameters logit (RPL) model was used for data analysis. The main advantage of this approach over the conditional/multinomial logit is that it relaxes the assumption of independence of irrelevant alternatives.\(^9,10\) Using the RPL allowed for job preference parameters to vary within the sample rather than assume they were constant, as is the case in the conventional multinomial logit model. Detailed mathematical model specifications are presented in Supplementary Material S1.

In this application of the RPL, all label coefficients are assumed to be independent and normally distributed in the population, but the price/salary coefficient is assumed to be log-normal to maintain theoretical assumptions of a negative price coefficient. The model was estimated by use of a simulated maximum likelihood approach with 1,000 Halton draws. To account for the repeated nature of the data, the Halton draws were individual-specific. Finally, willingness-to-accept (WTA) values were calculated for each of the job benefit attributes with the following equation:

\[
WTA = -\frac{\beta_k}{\alpha}
\]

where WTA was the ratio of the parameter estimate for the benefit of interest divided by the income/salary/price parameter estimate. Standard errors for WTA were calculated according to Daly et al.\(^11\) The model and WTA estimates were calculated with LIMDEP software.\(^12\)

### Results

The survey was started by 854 individuals, and 381 completed the survey for a completion rate of about 44.6%. The high attrition rate in completion rates was likely due to the use of convenience sampling methods. The survey was completed by students at 14 different colleges of veterinary medicine. The sample used for analysis predominately identified as female (88.8%), with the remainder identifying as male (11%) and other (0.2%). The annual data

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**Figure 1**—Example of the choice-based conjoint analysis on job offers.
report from the American Association of Veterinary Medical Colleges for the 2022 to 2023 year shows similar gender composition, with slightly above 80% of students identifying as female. The mean age of respondents was 25 years. Most (95.3%) of the respondents did not have children in the household. Most participants expected to work (52.7%) and live (54.8%) in suburban areas, as opposed to rural or urban areas. The largest percentage of students are comfortable working 40 to 60 hours a week (38.6%). Only about a quarter (25.7%) of students were interested in doing primarily emergency care. Telehealth consultation as part of their working days was of interest to about a third of veterinary students (36.8%), and expected paid vacation time was between 3 and 4 weeks (59.4% of respondents chose these options).

Participants expressed an interest in learning more about the following aspects about the veterinary profession:

1. Contract negotiation and salary: Many respondents were interested in understanding how to negotiate contracts, what constitutes a good contract, and how to leverage themselves as new graduates. Specific questions included understanding average salaries for veterinarians with different years of experience, how to negotiate raises, and what is considered a fair starting salary.

2. Debt and financial management: There was a significant focus on managing debt repayment, particularly student loans. Respondents were curious about loan repayment options, how to pay off loans efficiently, and managing finances on salaries like internships and residencies.

3. Work-life balance and mental health: Questions about achieving work-life balance, managing mental health, and maintaining a healthy lifestyle while working in the veterinary field were common. These questions included those about the availability of mental health resources and setting boundaries with employers.

4. Career progression and opportunities: Respondents were curious about job opportunities for new graduates, advancement prospects, and career paths within the veterinary industry. They were seeking information on mentorship, relief work, telehealth, and opportunities for ownership.

5. Workplace environment and culture: There was an interest in understanding how to gauge the culture of a clinic and what a realistic work environment looks like. Respondents also wanted to know about promoting positive culture, parental leave policies, and how to find fulfilling work environments.

6. Benefits and insurance: Questions about the types of benefits packages that are common, including health insurance, paid vacation, continuing education opportunities, and retirement plans, were prevalent. There was a desire to compare and understand different benefit packages employers offer.

7. Legal and ethical considerations: Respondents had questions about legal aspects of veterinary practice, including liability, noncompete clauses, and the legality of various job aspects.

8. General curiosity and concerns: Some respondents expressed a general curiosity about mentorship and various aspects of postgraduation life or articulated concerns about adequately preparing for the transition from student to professional.

Random parameter logit and willingness-to-accept results

The full results of the random parameter logit model can be viewed in Supplementary Material S1. We excluded them here as the coefficients themselves are virtually uninterpretable beyond directional sign (positive or negative) and are better understood in terms of WTA job offers with specific benefits. The WTA results for each benefit/attribute are presented in Table 1. The results showed that all job flexibility benefits are statistically significant in terms of original parameter estimates and WTA values.

### Table 1—Companion animal veterinary student willingness-to-accept (WTA) results of job benefits based on the parameter values estimated from the random parameters logit model (n = 381).

<table>
<thead>
<tr>
<th>Job benefit</th>
<th>WTA ($1,000)</th>
<th>SE</th>
<th>z value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 days PTO</td>
<td>−3.42</td>
<td>0.98</td>
<td>−3.47</td>
</tr>
<tr>
<td>10 days PTO</td>
<td>−2.67</td>
<td>0.71</td>
<td>−3.75</td>
</tr>
<tr>
<td>13 days PTO</td>
<td>−2.04</td>
<td>0.55</td>
<td>−3.70</td>
</tr>
<tr>
<td>4 work days/wk (reference = 6 days)</td>
<td>1.68</td>
<td>0.56</td>
<td>3.00</td>
</tr>
<tr>
<td>5 work days/wk (reference = 6 days)</td>
<td>1.54</td>
<td>0.55</td>
<td>2.79</td>
</tr>
<tr>
<td>40 work hours/wk (reference = 60 h/wk)</td>
<td>1.68</td>
<td>0.56</td>
<td>3.01</td>
</tr>
<tr>
<td>50 work hours/wk (reference = 60 h/wk)</td>
<td>1.49</td>
<td>0.49</td>
<td>2.99</td>
</tr>
<tr>
<td>At least 1 weekend day of work</td>
<td>−0.17</td>
<td>0.37</td>
<td>−0.46</td>
</tr>
</tbody>
</table>

P TO = Paid time off.

*a* Does not meet the P ≤ .05 threshold. All other estimated coefficients (without a superscript) are statistically significant at the P ≤ .05 level. *a* Scaled by $1,000.

When examining WTA job offers with different PTO amounts, companion animal veterinary students valued more PTO. This was evident by the negative WTA values for 7, 10, and 13 days of PTO as compared to no PTO. Negative mean WTA values indicated an unwillingness to accept the job offer and the monetary compensation required on average for respondents to be indifferent between accepting a job and the respondents’ status quo. For 7 days of PTO, employers would need to offer participants approximately $3,420. Similarly, offering 10 days of PTO would result in the need to offer approximately $2,670 more. Offering 13 days of PTO would result in needing to offer the participants an additional $2,040. It is worth noting that these results indicated that employers would need to offer much more PTO than 13 days to not require additional compensation.
When considering working days per week, 4 and 5 days of work per week were valued higher and preferred as compared to 6 days of work (about $1,680 and $1,540, respectively), both of which were statistically significant. Similarly, working fewer hours per week was highly valued. From the WTA results, students valued jobs that would require only 40 hours of work per week at about $1,680 compared to a job that would require 60 hours per week. When comparing a 50-hour work week to a 60-hour work week, students valued this difference at about $1,490. Finally, regarding the job requirement of working at least 1 weekend, students negatively valued this arrangement at about $170, though this value was not statistically significant.

Discussion

An evaluation of preferred working arrangements for associates is perhaps long overdue in veterinary medicine. Yet, to assume that veterinary graduates constitute a homogenous market that values employment offers as they have always been formed could be an expensive proposition given the rate of turnover and issues concerning well-being.2 The results of this study demonstrated that students would prefer to find working arrangements that support a better balance between work and life through working full-time but with fewer hours or days per week. As noted in the model parameters presented in Supplementary Material S1, there is quite a bit of heterogeneity present in the estimates, evidenced by the SDs of the random parameters. This suggests a need for more work delving into these diverse preferences. All of these results are consistent with the economic theory of labor in which people would prefer to work less for more money per hour, which is why they place value on those working arrangements.14 When wages increase to a point on the aggregate market level such that workers begin to work fewer hours for a higher hourly wage, a phenomenon called the “backwards-bending labor supply curve” can emerge. This experiment does not prove the existence of such a phenomenon in this market, but it is something for future research.15

What is most important from these results is that students place value on these specific nonpecuniary benefits. This is especially true for working only 4 days a week and a 40-hour work week. For students, this means they should focus more on what nonmonetary aspects they are looking for in employers and create probing questions to ask in the interview and negotiation phases. To help achieve job satisfaction, employers must include motivational elements that contribute to the employee’s sense of job flexibility through autonomy, competence, and a sense of belonging, as suggested in the Self-Determination Theory.15 As noted in additional aspects about which students were interested in learning more, mentorship and the transition from student to professional were important ones.

While this study employed robust methods to analyze preferences for various job attributes, we only examined a small subset of potential nonpecuniary benefits. In addition, this study had a sample size that represented only a small portion of the veterinary student population, with an exclusive focus on those pursuing companion animal practice. This was done to remove some unrealistic job aspects related to other practice types. Other limitations of this study included nonrandom sampling (we used convenience sampling) and more explicit market segmentation via demographics or latent class analysis. Such market segmentation analysis would require a larger sample size.

As previously mentioned, market segmentation in terms of job applicant preferences for various job benefits would be a fruitful avenue for further research. In so doing, employers could better match job offers to potential employees’ preferences. Such strategies have been found to be useful in the recruitment and retention of employees in other industries.2,16 Other work could focus on the value of mentorship, well-being, and personal financial management. Finally, examining other benefits using this framework along with rigorous qualitative methods would provide a more robust view on the value of nonpecuniary job benefits.

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Disclosures

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References


**Supplementary Materials**

Supplementary materials are posted online at the journal website: avmajournals.avma.org.