
Chapter 15

Importance – Performance Analysis of Food Supply Veterinary Medicine Career Commitment

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Introduction

The purpose of this study is to conduct an importance/performance analysis of second and fourth year veterinary students to determine decision factors that will get students to make a lifelong commitment to a FSVM career. An Importance – Performance analysis examines both how well a factor contributes to a given goal as well as how important that factor is to the respondent. By understanding both the importance and performance of a given factor, decision makers are able to discern which factors are critical for improvement (high importance and low performance) as well as which factors must be maintained (high importance and high performance). Additionally, the data may indicate which factors can be deemphasized (low importance and high performance) or ignored (low importance and low performance). This information is useful in guiding the allocation of scarce resources such as program funding and individual’s time.

Methodology

Sample

The Deans at all 32 colleges of veterinary medicine in the United States and Canada were contacted and asked to participate in the survey by supplying email contact information for their second and fourth year veterinary students. Tremendous support was received with 19 colleges providing email listings directly to us and another 13 colleges agreeing to send out the survey directly to their students. The survey was administered in April of 2005. Three waves were sent out in one week increments. The survey was sent to 1,590 valid email addresses of second and fourth year veterinary students with 759 students responding, resulting in a 47.7% response rate. Responses were received from students at all 32 colleges of veterinary medicine in the United States and Canada.

Methodology (continued)

Cover letter / Survey / Constructs

Second and fourth year veterinary students were sent an email message from the research team that explained the purpose of the research, identified the sponsoring organizations, and invited them to participate in the study. A web URL was included in the email message that linked to the online survey. The survey was pretested and sent out in three waves separated by one week increments in order to increase response rates. A variety of questions were asked in this research instrument including occupational focus area, ratings of career goals that are *critically important* to respondents in their decision to make a lifetime commitment to their selected occupational area, how likely it is that one's chosen occupational area will allow them to attain each career goal, and the critical factors and changes that are need to make a lifetime commitment to their chosen career area.

Non-response Bias

Statistical analyses were carried out for non-response bias. A wave analysis with the Student's t-test was used to look for differences between early and late returns. This provides some information about whether the data from completed questionnaires are biased by the likelihood of non-response. The wave analysis method assumes that subjects who respond less readily are more like non-respondents. Using the t-test for two sample proportions and a 95 per cent level of confidence, it was found that there were no significant differences between early and late returns for items in the questionnaire at the 0.05 level. Since the study did not involve sensitive issues, it was concluded that there was no compelling reason to believe that the response group systematically possessed different response tendencies from non-responders.

Overall Findings from Importance-Performance Analysis

- **Overall the important career goals needed for respondents to commit to their selected career areas are capable of being met by that career. This is evidenced by many of the factors examined falling into the “Keep up the good work” quadrant of the I-P grid. This indicates that many of the factors that are important to the students and also rated highly in terms of the ability of the occupational area to allow them to attain that career goal.**
- **Those areas within the food animal occupation that respondents report need to be improved for them to make a lifetime commitment to that field are:**
 - **more flexible work hours.**
 - **better retirement benefits.**
 - **more free time to spend with my family.**
 - **the ability to become a leading authority in the field.**
 - **better health care benefits.**
 - **More family leave time for childbirth or illness.**
 - **More extensive contact with other veterinarians at work.**

Overall Findings from Importance-Performance Analysis (continued)

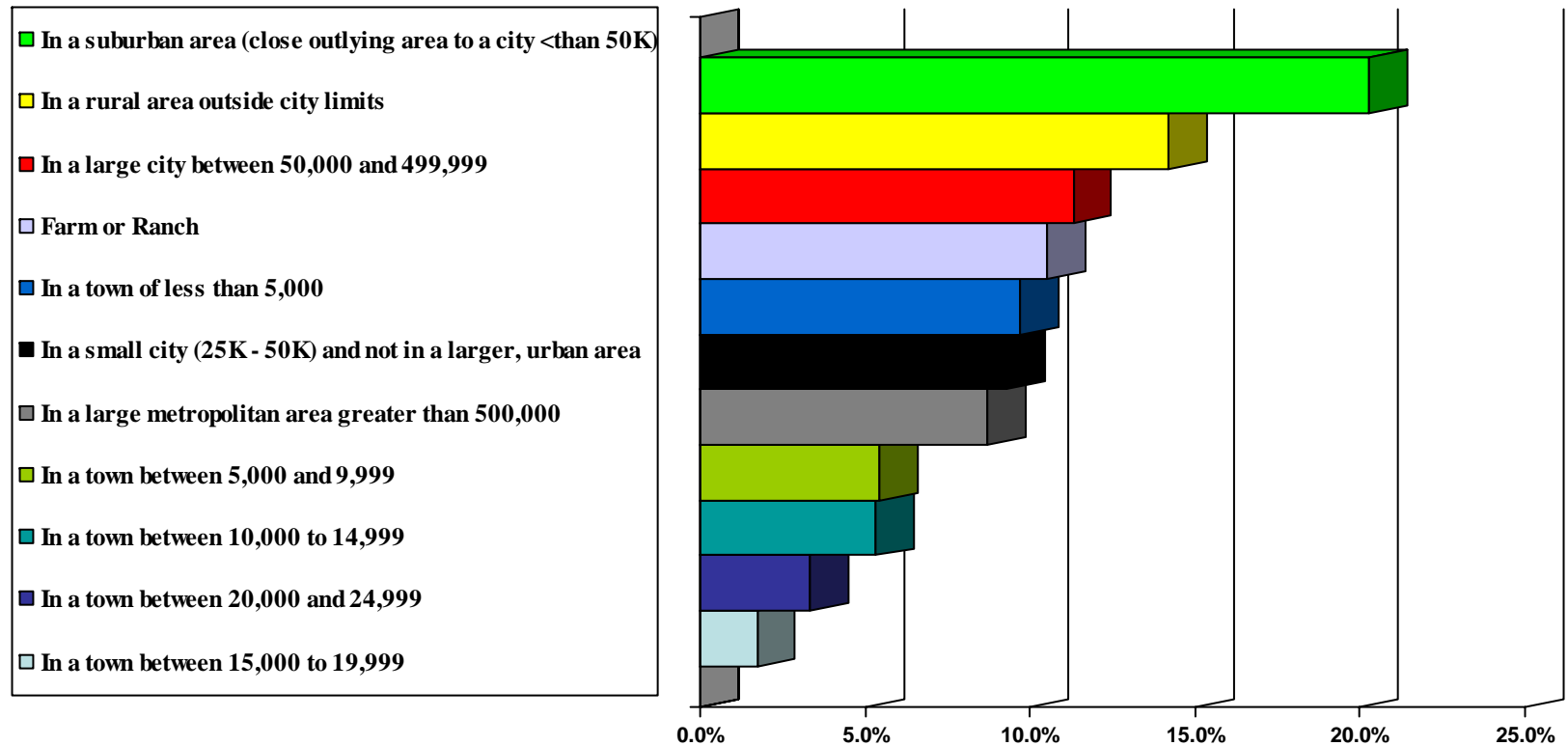
- Respondents were asked, in an open-ended response question, to describe the most important reason for making a lifetime commitment to food animal medicine. The top four reasons accounted for 52% of the responses and included a career that allowed for (1) a balance between work and one's personal life, (2) a salary adequate to pay off student loans and to live comfortably, (3) a sense that there would be continued demand in the future for their services (job security), and (4) the ability to personally interact with and work alongside food animal producers on a frequent basis.
- Respondents were also asked to describe one change in the food animal veterinary occupation that would be critically important for them to make a lifetime commitment to that career field. The top four reasons accounted for 70% of the responses and included (1) higher income, (2) increased personal / family time, (3) more educated and appreciative producers, and (4) greater stability in demand.
- Interestingly, the same four factors that need to be changed to make a lifetime commitment to a food animal career are mostly the ones that respondents felt were lacking in the importance-performance analysis.

Respondent Demographic Profile

- **Thirty-one percent of respondents came from suburban areas and large communities, with a sizeable group (14%) from ranches or farms. The distribution of an ideal place to live mirrors the community-size-grown-up-in data.**
- **Respondent undergraduate degrees are primarily from biological sciences (54%) and agriculture (26%).**
- **Over 42% of the respondents are 20 to 24 years in age with another 41% between the ages of 25 and 29.**
- **Female respondents accounted for 81% of the sample with 93% being Caucasian.**
- **Thirty-eight percent of respondents are married or cohabiting, while 60% having never been married.**
- **Forty-five percent of respondents expected an annual income in the 60K to 79K range five years after graduation. Another 25% expected annual income in the 80K to 99K range. On average, male income expectations are higher than those of females**

Childhood Community Size

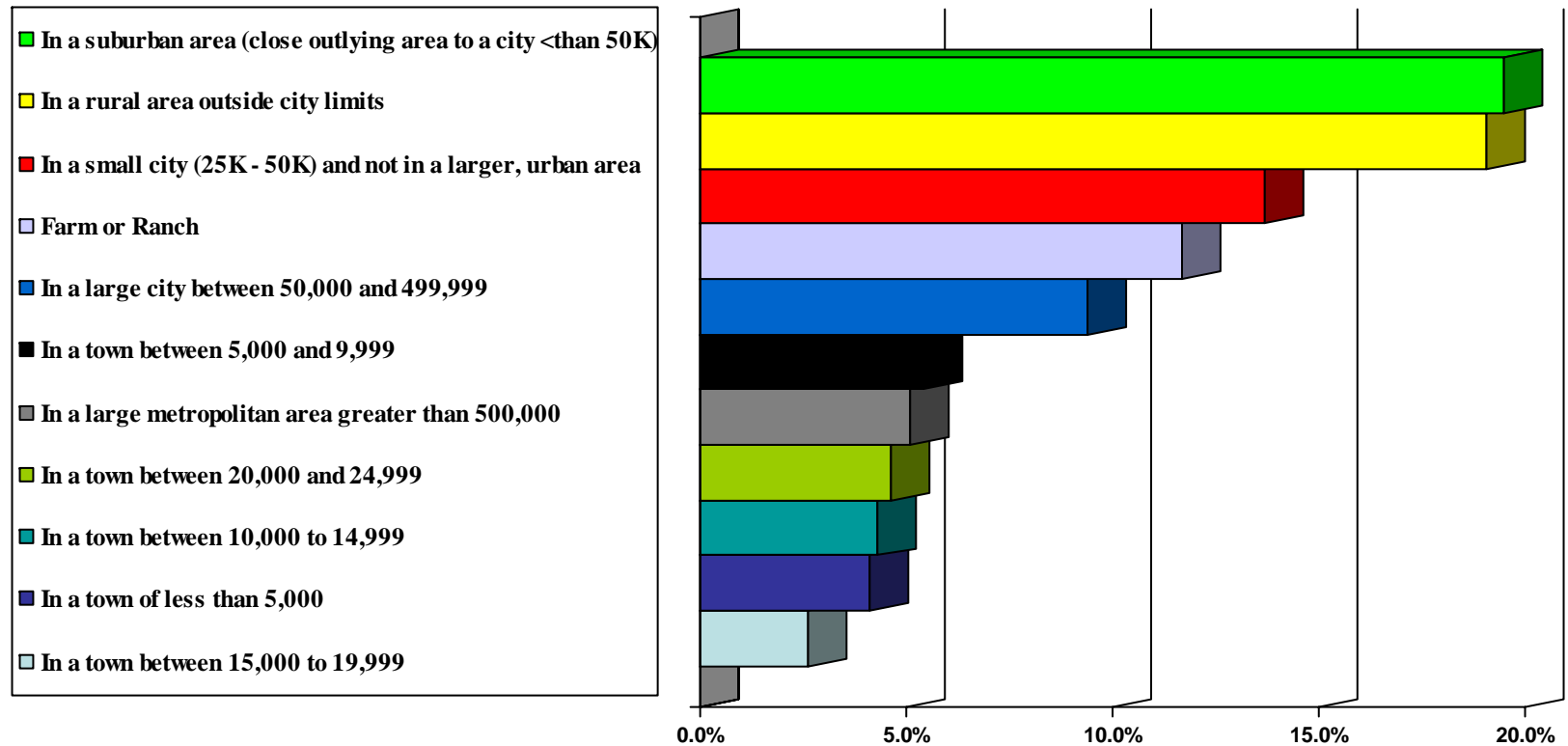
Among all second and fourth year veterinary student respondents



Q90: What is the size of the community in which you spent the majority of your childhood?

Ideal Community Size to Live After Graduation

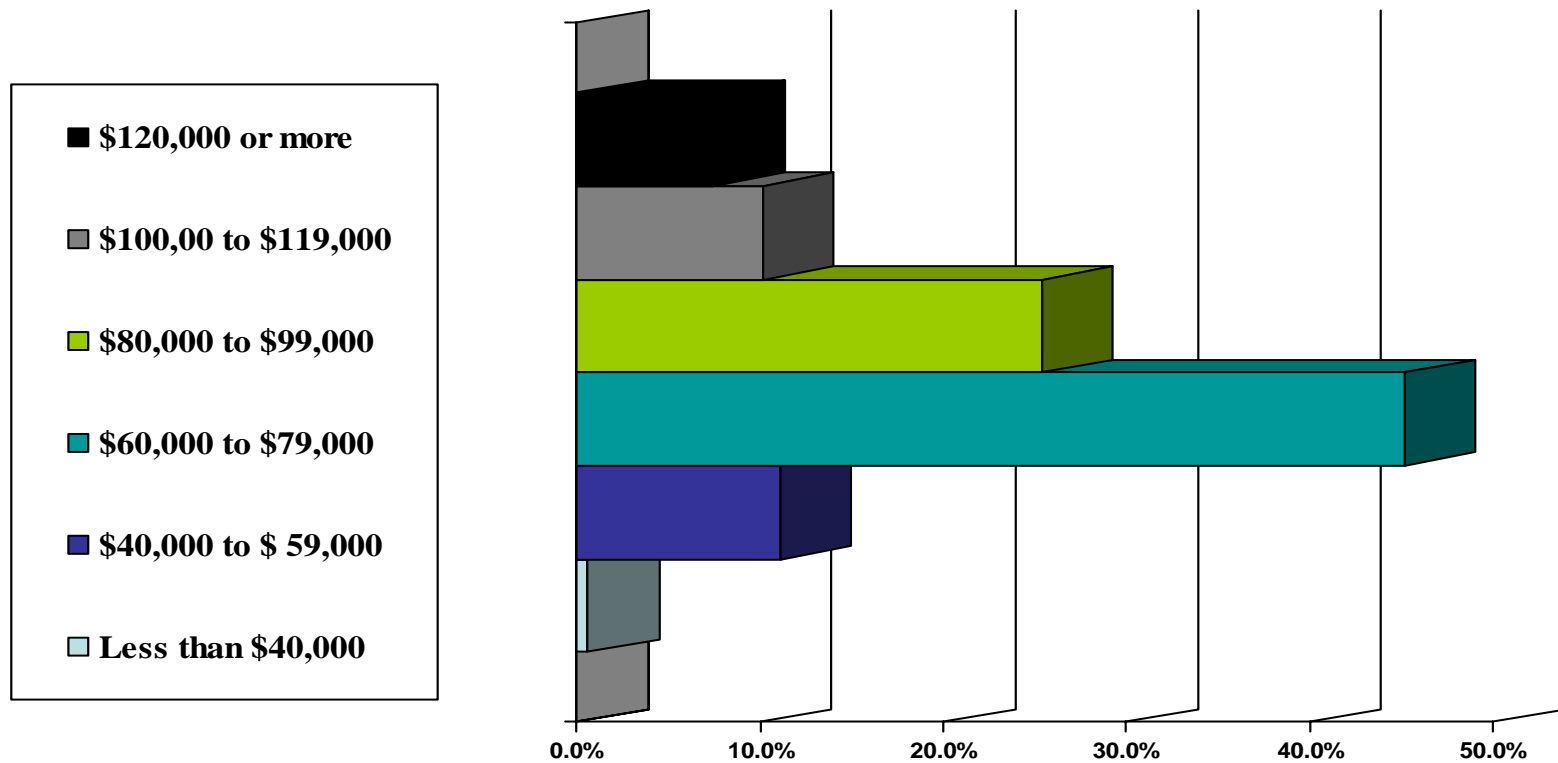
Among all second and fourth year veterinary student respondents



Q91: What is the size of the community where you would ideally like to live?

Estimated Salary 5 Years After Graduation

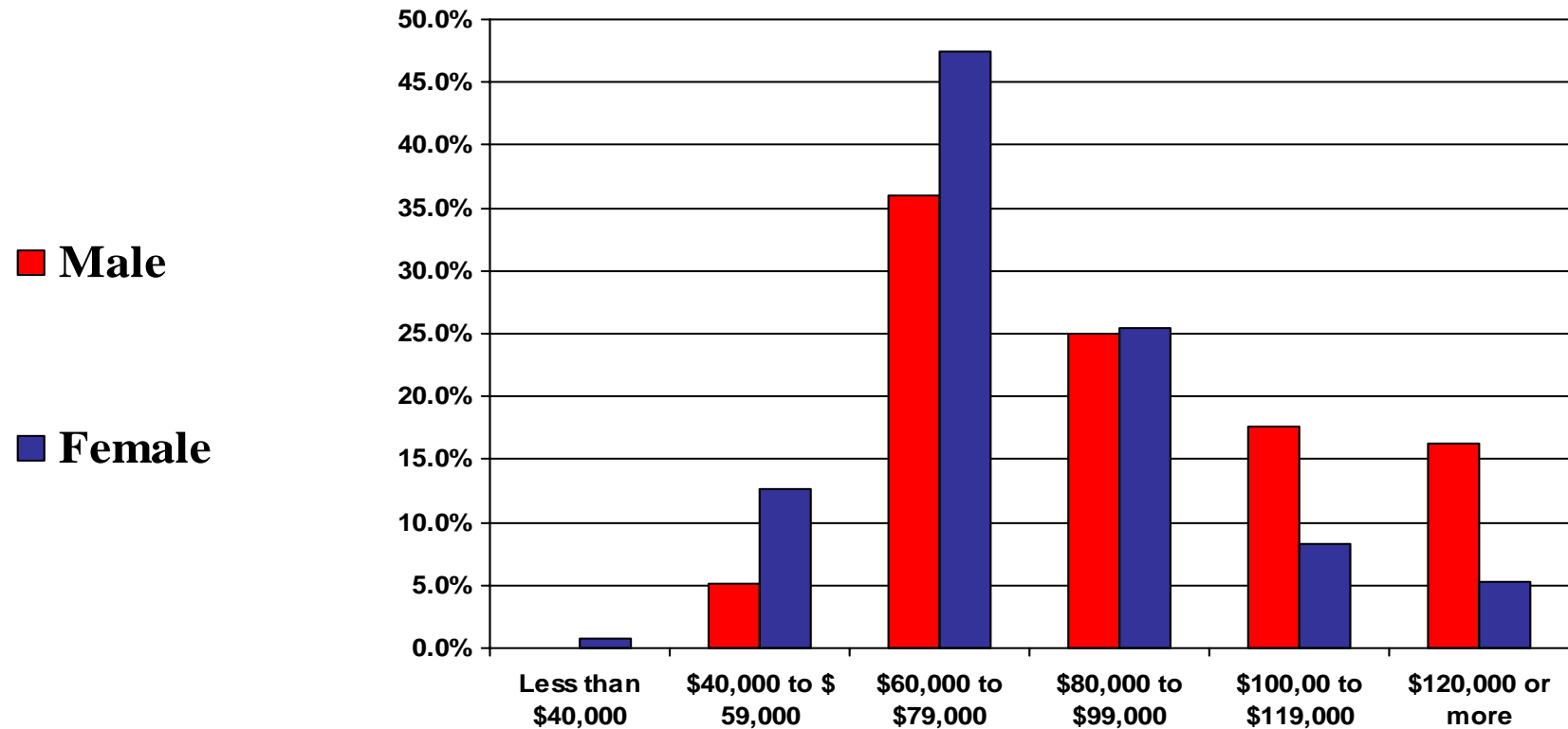
Among all second and fourth year veterinary student respondents



Q93. Which category below best describes the annual income you think you will make from your veterinary medicine work after 5 years on the job?

Estimated Salary 5 Years After Graduation by Gender

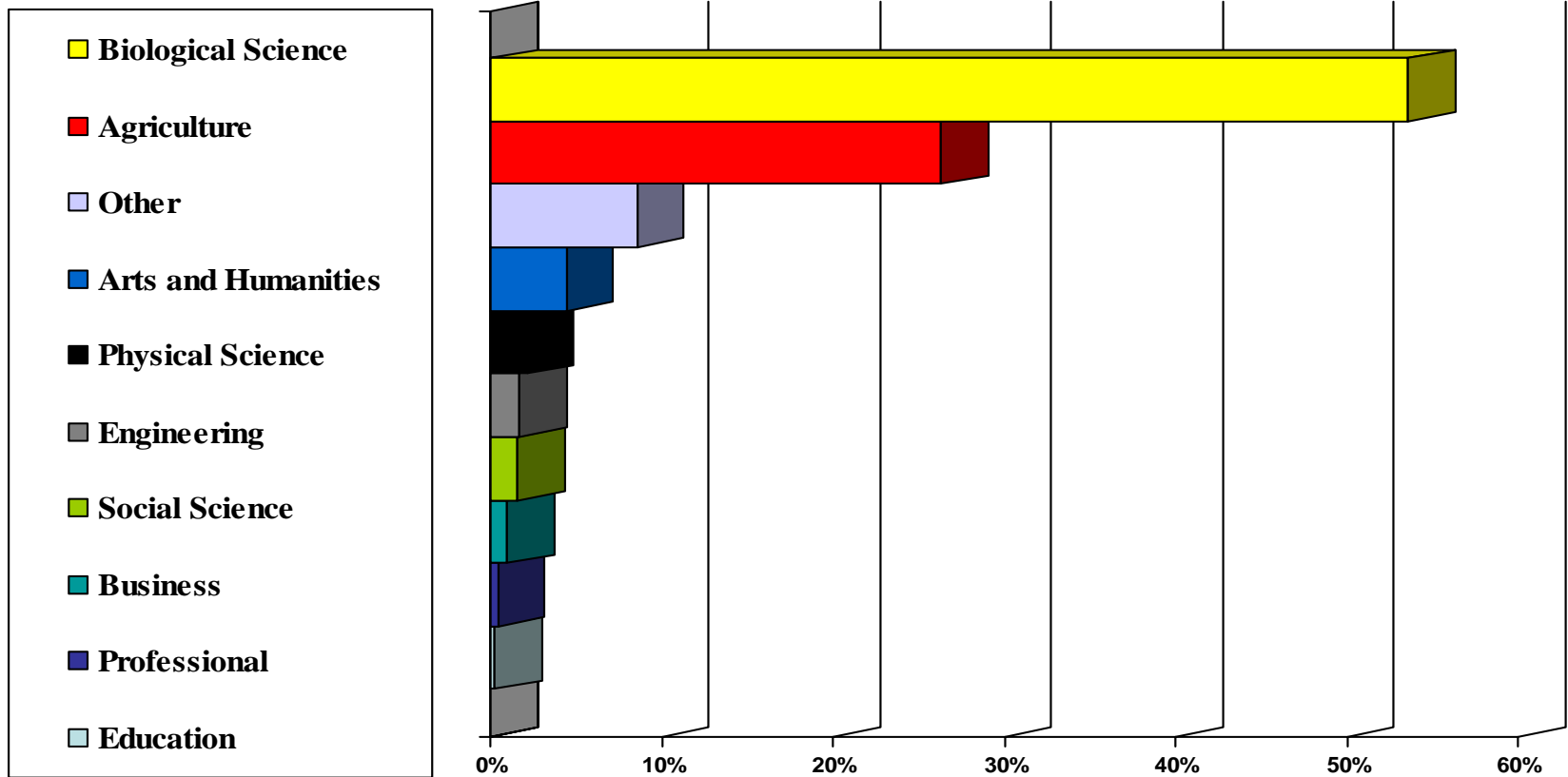
Among all second and fourth year veterinary student respondents



Q93. Which category below best describes the annual income you think you will make from your veterinary medicine work after 5 years on the job?

Undergraduate Major

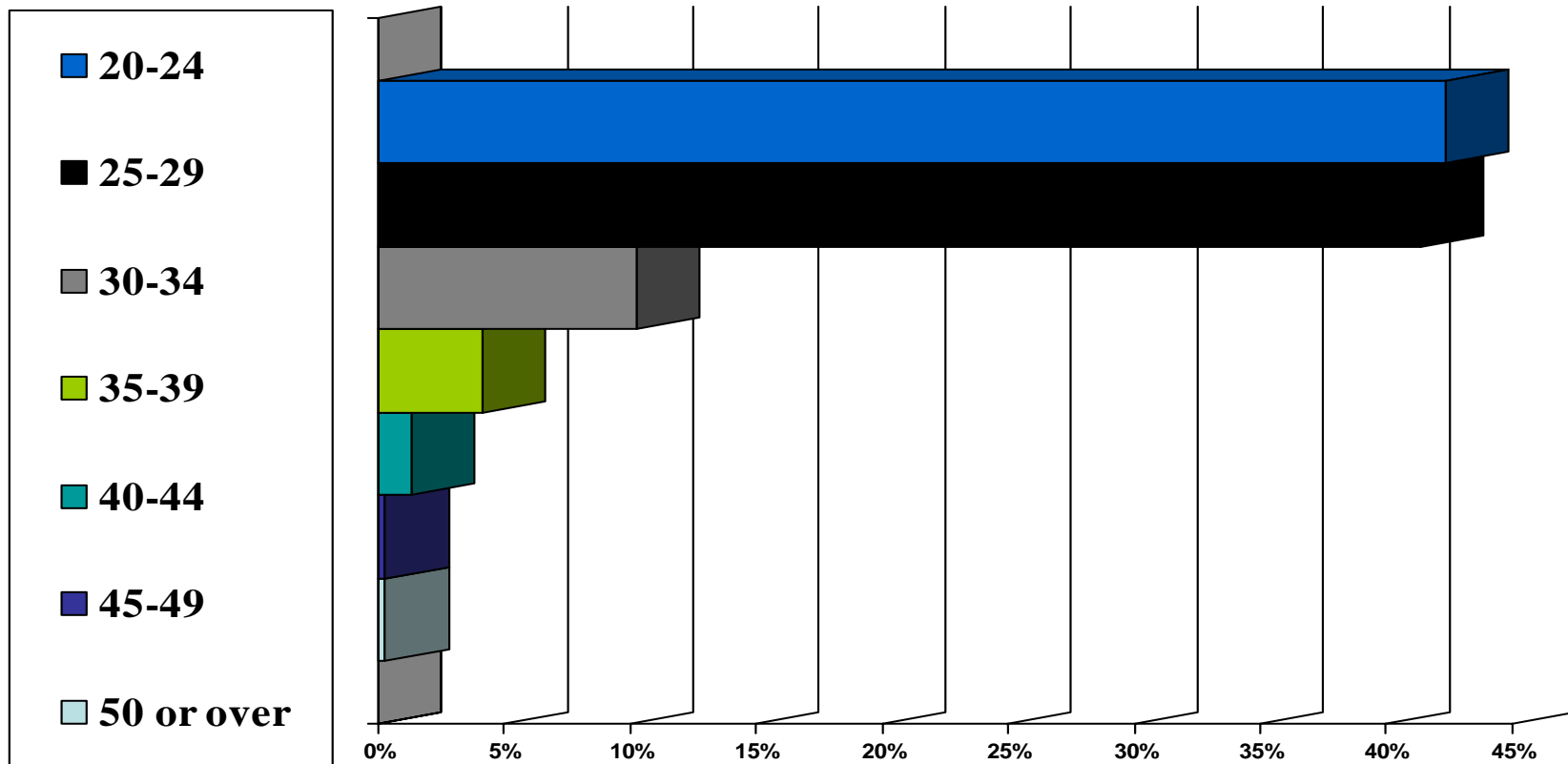
Among all second and fourth year veterinary student respondents



Q96: In which area was your undergraduate major?

Respondent Age

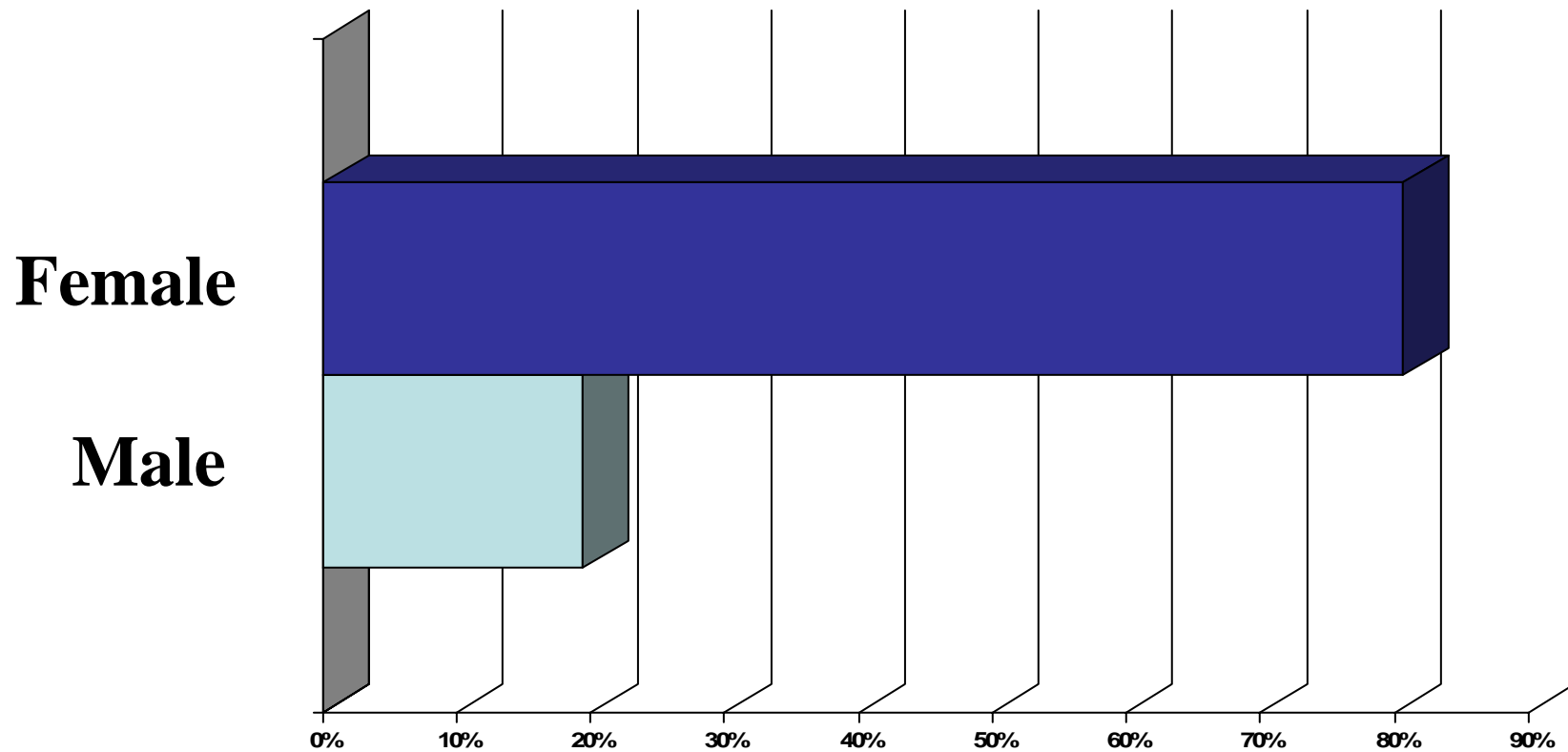
Among all second and fourth year veterinary student respondents



Q97: What is your current age?

Respondent Gender

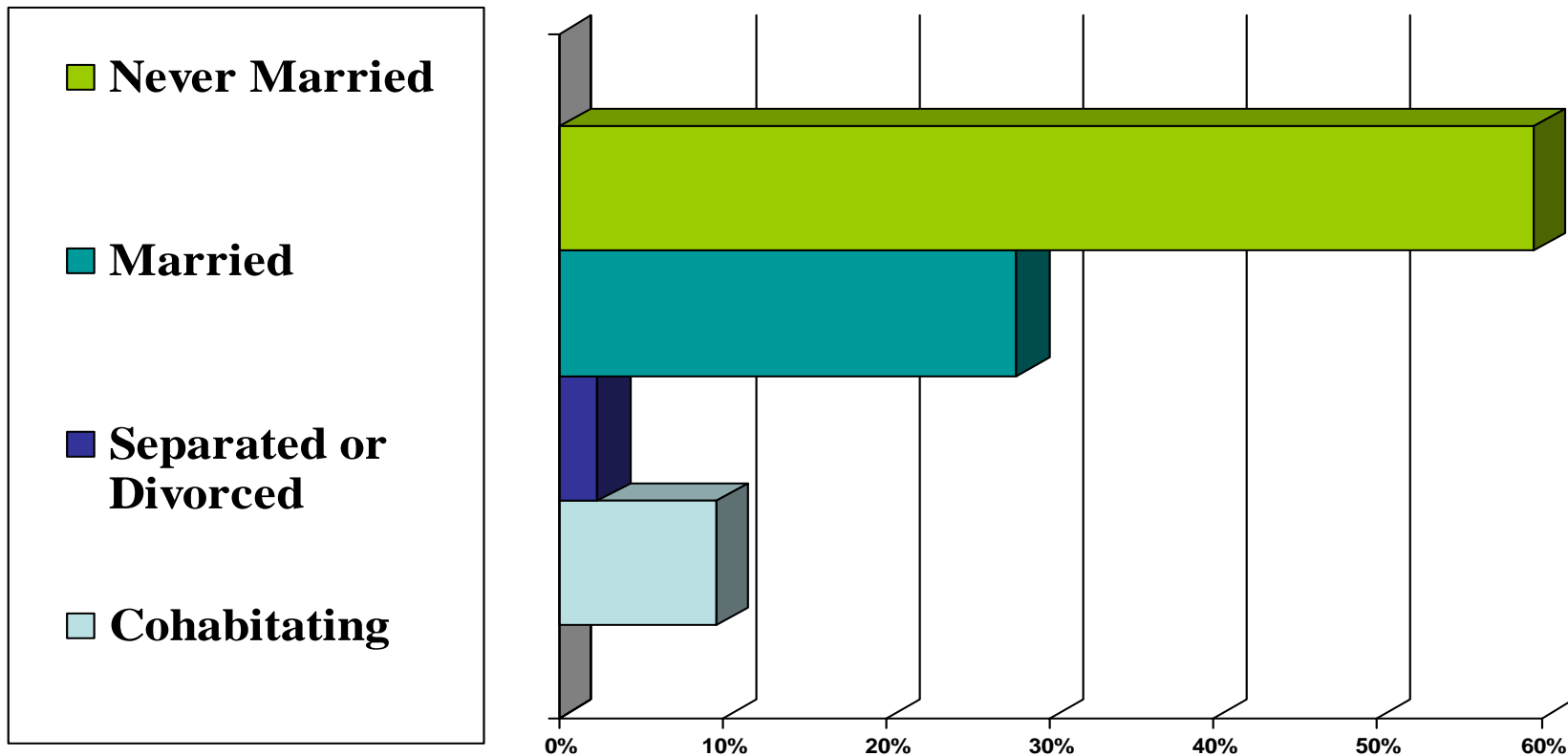
Among all second and fourth year veterinary student respondents



Q98: What is your gender?

Respondent Marital Status

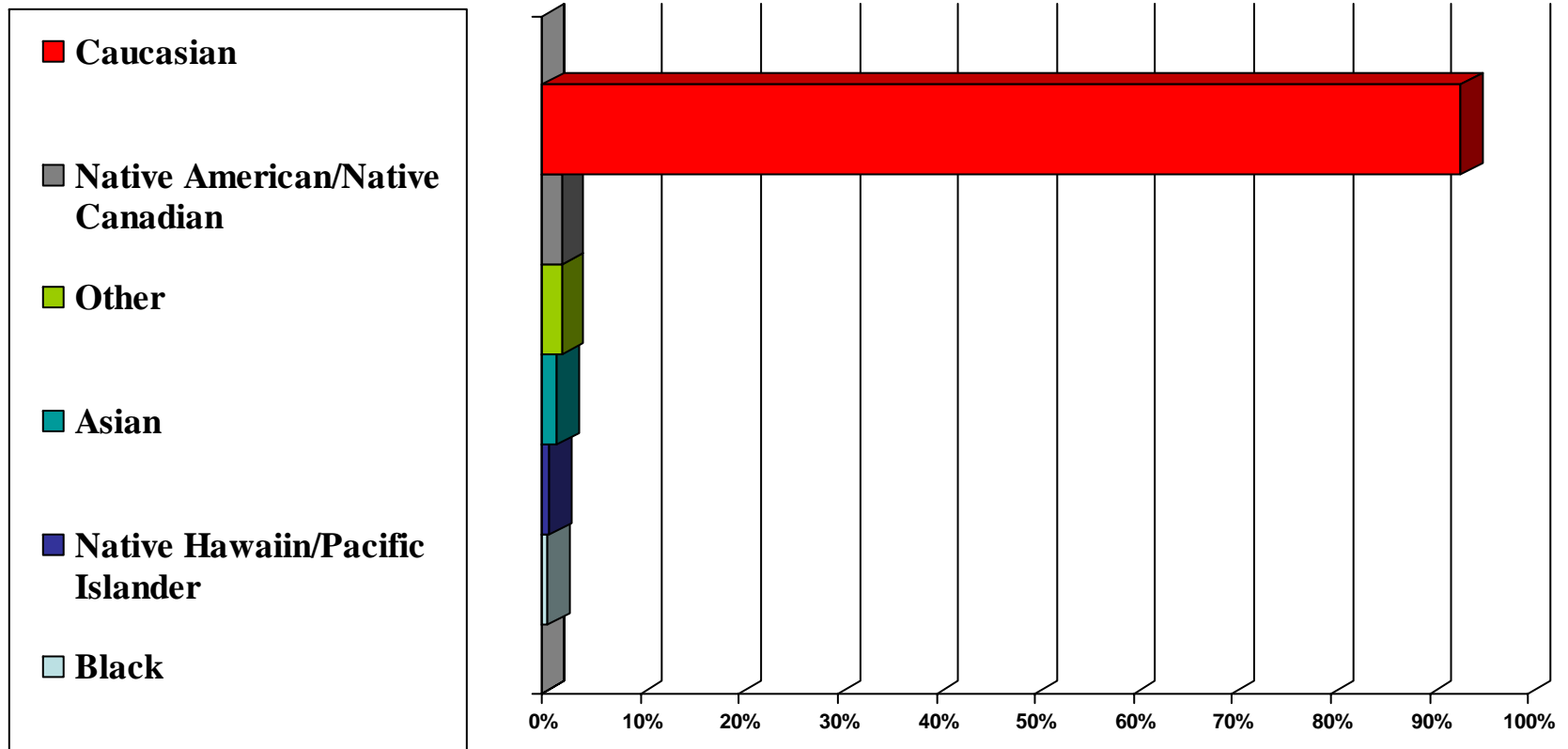
Among all second and fourth year veterinary student respondents



Q99: What is your marital status?

Respondent Racial / Ethnic Background

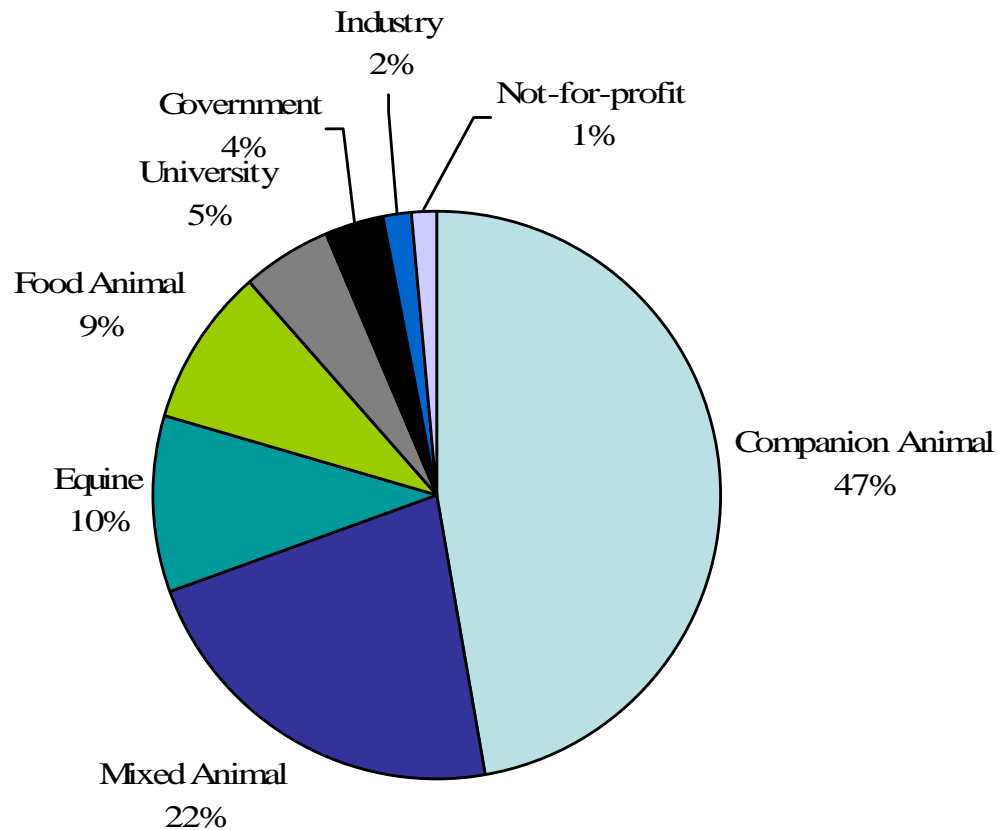
Among all second and fourth year veterinary student respondents



Q100: Which of the following best describes your racial or ethnic background?

Planned Occupational Area

Among all second and fourth year veterinary student respondents



Importance – Performance Analysis Summary

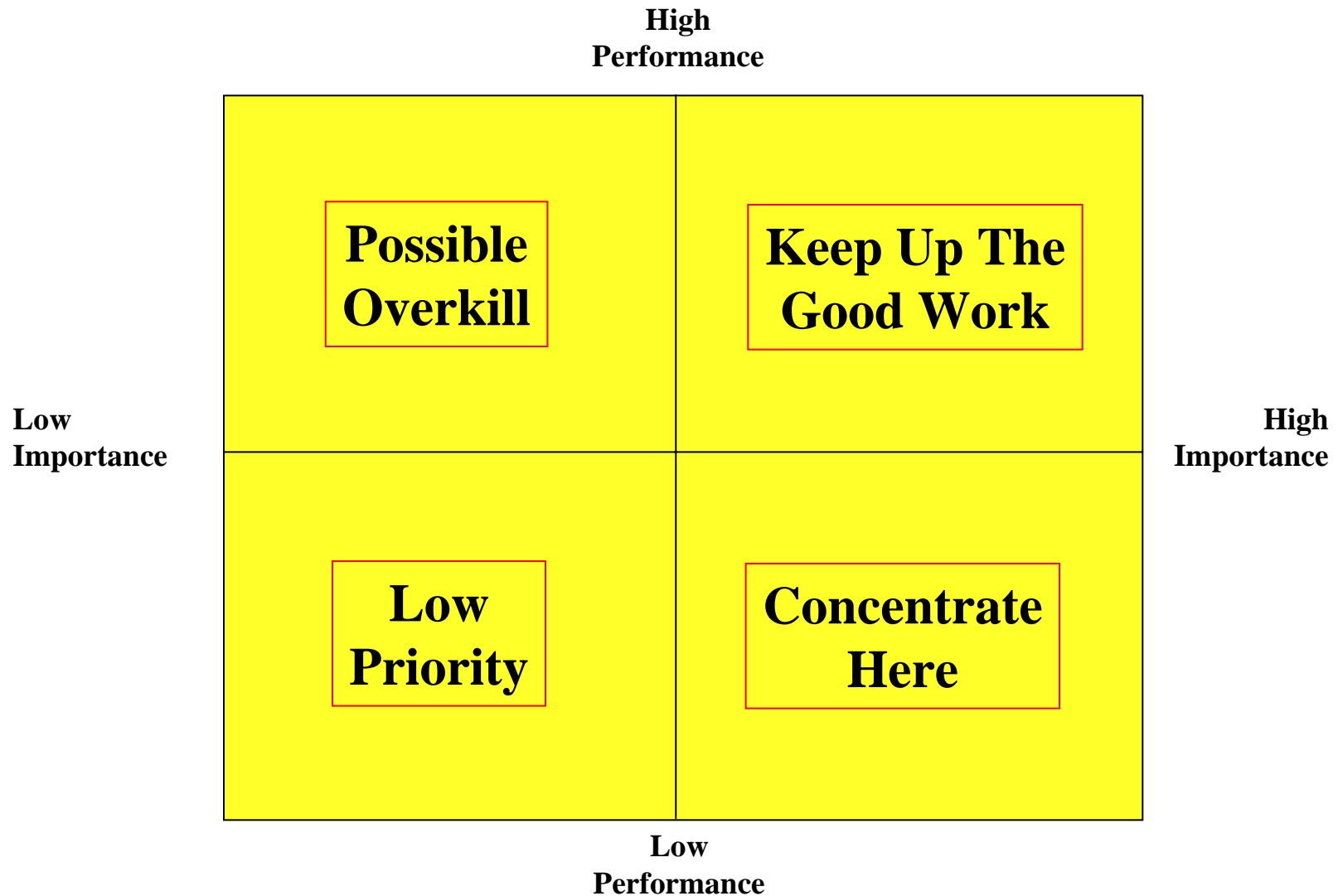
- **Many items fall in the “keep up the good work” quadrant, while not many career factors appear in the “concentrate here” quadrant.**
- **Those areas to concentrate on for food animal students revolve around**
 - **Personal issues (e.g., flexible work hours)**
 - **Benefits (e.g., retirement and health care benefits)**
 - **Professional issues (e.g., becoming an authority in one’s occupational area)**
- **There is much similarity among the factors that food animal students and non-food animal students rated as important, but low performing.**

Importance – Performance Analysis

Importance-Performance analysis is a framework used in consumer research to examine attribute importance and performance. The key idea is that knowing both the importance of the factor and its current level of performance are needed for informed resource allocation decisions. We applied this technique to attributes of a veterinary career in the context of one making a lifetime commitment to a particular career focus.

Based on research by Martilla and James (1977) we used a mean adjusted I-P grid where the axes of the grid cross at the average rating point of all items.

Importance – Performance Grid



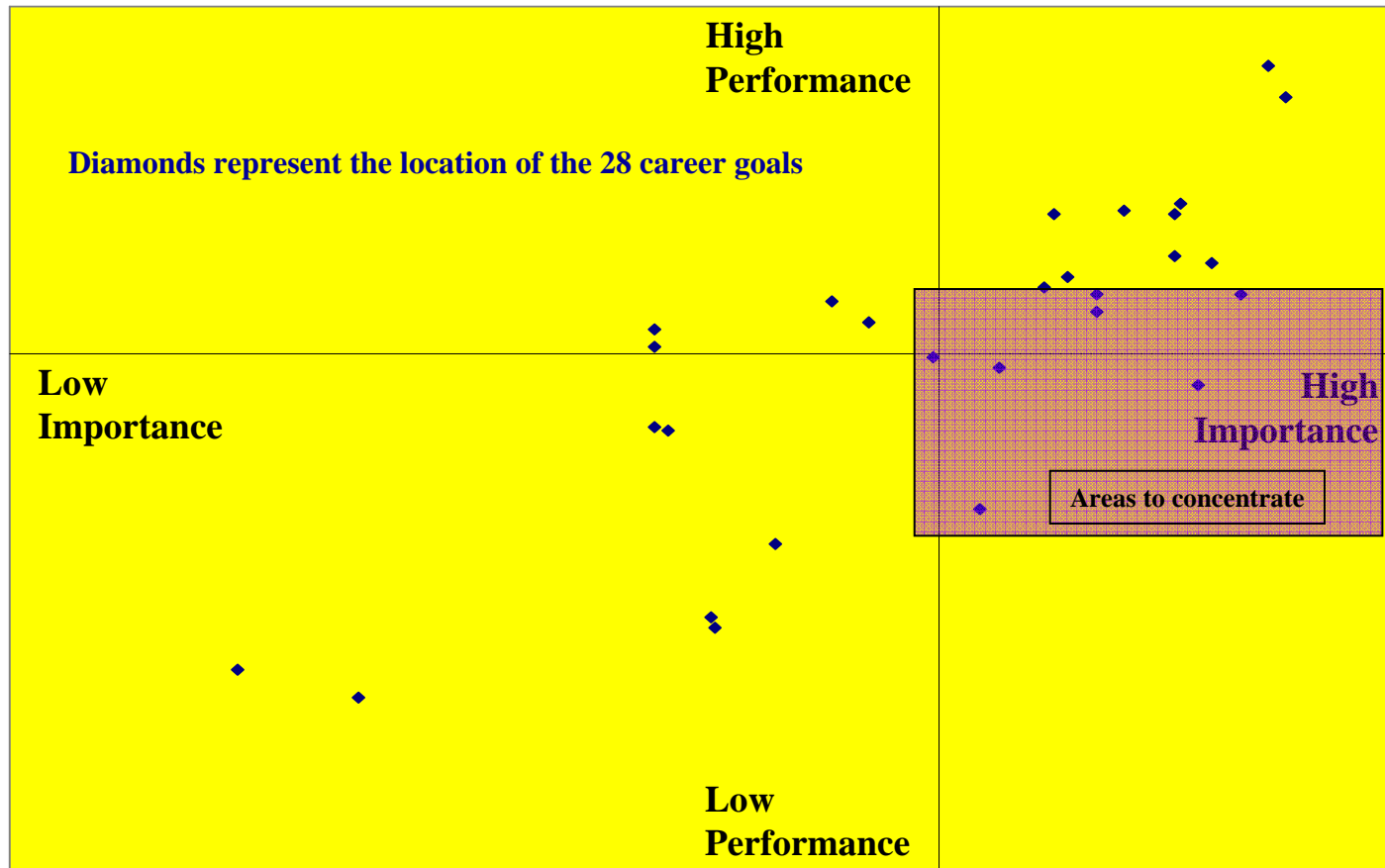
Respondent Instructions

- ◆ **“Please rate the importance of the following career goals that are *critically important* to you in your decision to make a lifetime commitment to your chosen occupational area.”**
 - ◆ **Rated on a four point scale of “Very Unimportant” to “Very Important”**

- ◆ **“Next, please rate how likely your chosen occupational area will allow you to attain each career goal listed.”**
 - ◆ **Rated on a four point scale of “Very Unlikely” to “Very Likely”**

- ◆ **Twenty-eight different career goals were assessed using this procedure.**

Importance – Performance Grid for Food Animal Students Encouraging a Lifetime Commitment



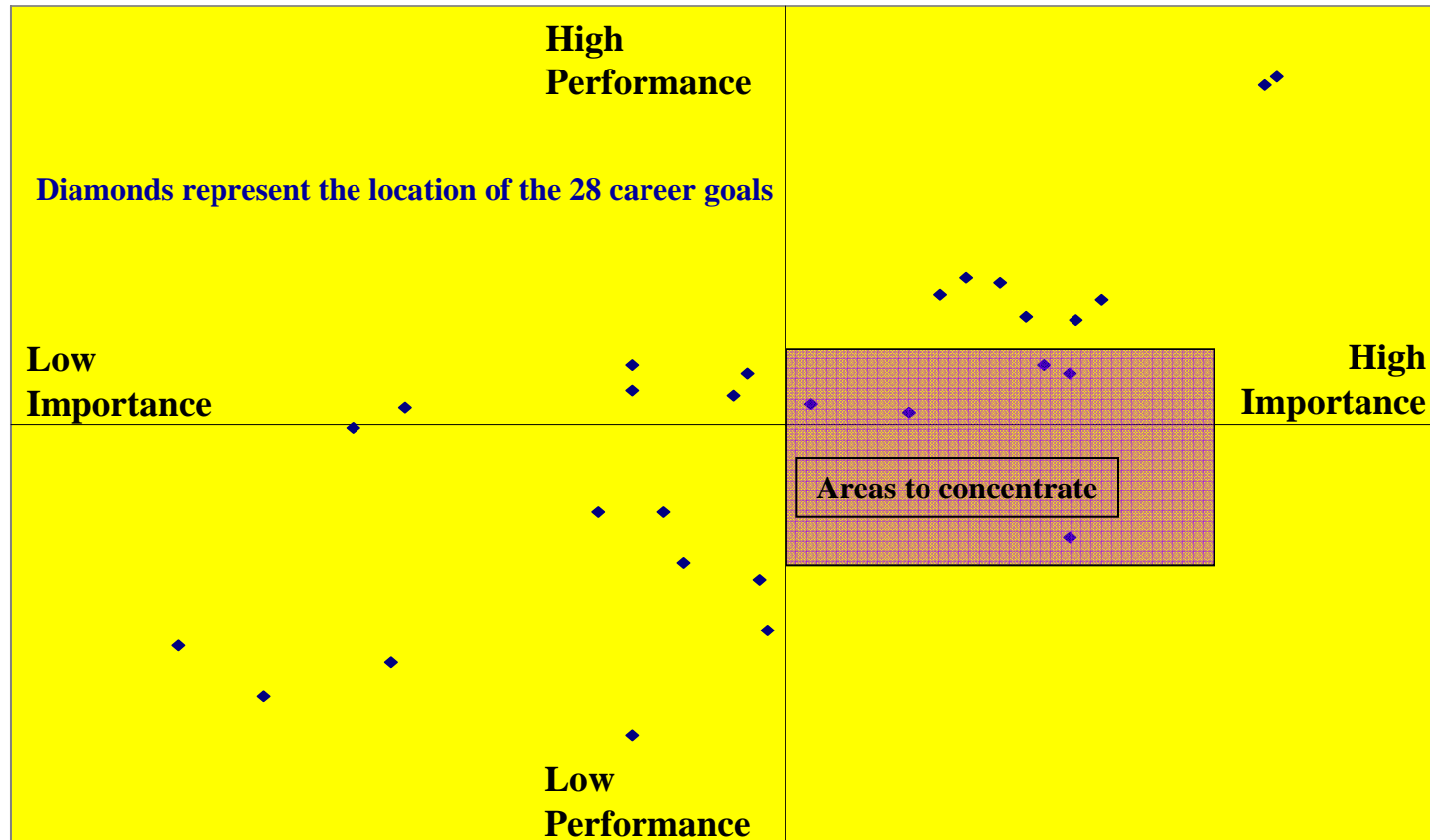
Food animal students in this analysis are those reporting to spend 66% or more of their time working with food animals from question 1 in the survey: “Please identify the percent of time that you plan to spend working with the species below over your career lifetime. Responses should add to 100%.”

Areas to Concentrate on in Encouraging A Lifetime Commitment Among Food Animal Students

- ◆ **Very flexible work hours.**
- ◆ **Excellent retirement benefits.**
- ◆ **Having a lot of free time to spend with my family.**
- ◆ **Becoming a leading authority in my occupational area.**
- ◆ **Excellent health care benefits.**
- ◆ **Family leave time for childbirth or illness.**
- ◆ **Extensive contact with other veterinarians at work.**

These are the seven career goals in the shaded box on the previous slide

Importance – Performance Grid for Non-Food Animal Students Encouraging a Lifetime Commitment



Non-Food animal students in this analysis are those reporting to spend 0% of their time working with food animals from question 1 in the survey: “Please identify the percent of time that you plan to spend working with the species below over your career lifetime. Responses should add to 100%.”

Areas to Concentrate on in Encouraging A Lifetime Commitment Among Non-Food Animal Students

- ◆ **Having a lot of free time to spend with my family.**
- ◆ **Family leave time for childbirth or illness.**
- ◆ **Excellent health care benefits.**
- ◆ **Flexible career path that lets me move in many different career directions.**
- ◆ **Excellent retirement benefits.**

These are the five career goals in the shaded box on the previous slide.

Importance-Performance Factor Mean Comparison

	All Respondents		Food Animal Students		Non-Food animal students	
	Importance	Performance	Importance	Performance	Importance	Performance
Making a six figure annual income. ¹	2.47	2.54	2.24	2.59	2.58	2.63
Becoming a leading authority in my occupational area.	2.68	2.62	2.81	2.80	2.68	2.63
Excellent retirement benefits.	3.03	2.83	2.95	2.77	3.06	2.87
Excellent health care benefits.	3.25	2.93	3.16	2.93	3.27	2.98
Being able to stay in one geographic location during my career.	2.60	2.96	2.59	2.96	2.63	2.98
Very flexible work hours.	2.82	2.46	2.91	2.36	2.83	2.47
Working for a financially stable employer that offers a secure future	3.35	3.09	3.33	3.09	3.36	3.14

¹ indicates a statistically significant difference between the food animal and non-food animal *importance* means

² indicates a statistically significant difference between the food animal and non-food animal *performance* means

Importance Questions: Please rate the importance of the following career goals that are *critically important* to you in your decision to make a lifetime commitment to your chosen occupational area.” (Four point scale of “Very Unimportant” to “Very Important”)

Performance Questions: “Please rate how likely your chosen occupational area will allow you to attain each career goal listed.” (Four point scale of “Very Unlikely” to “Very Likely”)

Importance-Performance Factor Mean Comparison

	All Respondents		Food Animal Students		Non-Food animal students	
	Importance	Performance	Importance	Performance	Importance	Performance
A veterinary career that lets me become a community leader. ²	2.90	3.07	3.07	3.21	2.81	2.96
Being able to travel extensively with my job. ²	2.11	2.32	2.21	2.60	2.06	2.19
Living in an urban area. ^{1 2}	1.98	2.57	1.31	1.90	2.28	2.88
Having a lot of hands-on work with animals.	3.64	3.65	3.57	3.55	3.63	3.67
Regularly using my medical/surgical skills. ^{1 2}	3.57	3.56	3.34	3.24	3.61	3.65
A clear path for career advancement.	3.14	3.11	3.05	3.0	3.20	3.18
Work that is not physically demanding. ^{1 2}	1.81	2.17	1.57	1.82	1.93	2.31

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Importance Questions: Please rate the importance of the following career goals that are *critically important* to you in your decision to make a lifetime commitment to your chosen occupational area.” (Four point scale of “Very Unimportant” to “Very Important”)

Performance Questions: “Please rate how likely your chosen occupational area will allow you to attain each career goal listed.” (Four point scale of “Very Unlikely” to “Very Likely”)

Importance-Performance Factor Mean Comparison

	All Respondents		Food Animal Students		Non-Food animal students	
	Importance	Performance	Importance	Performance	Importance	Performance
A career with few on-call hours. ^{1 2}	2.59	2.34	2.33	2.05	2.71	2.51
Having administrative responsibility for the work of others.	2.22	2.85	2.21	2.88	2.20	2.83
Being able to have a lot of independence to decide how work gets done.	3.27	3.12	3.33	3.21	3.24	3.10
Having a lot of close friends at work.	2.79	2.93	2.67	2.90	2.79	2.91
Working on a large variety of tasks.	3.15	3.19	3.22	3.22	3.11	3.15
A career that offers a lot of vacation time. ¹	2.72	2.30	2.47	2.26	2.84	2.35
Having a lot of free time to spend with my family.	3.30	2.55	3.38	2.72	3.31	2.57

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Importance Questions: Please rate the importance of the following career goals that are *critically important* to you in your decision to make a lifetime commitment to your chosen occupational area.” (Four point scale of “Very Unimportant” to “Very Important”)

Performance Questions: “Please rate how likely your chosen occupational area will allow you to attain each career goal listed.” (Four point scale of “Very Unlikely” to “Very Likely”)

Importance-Performance Factor Mean Comparison

	All Respondents		Food Animal Students		Non-Food animal students	
	Importance	Performance	Importance	Performance	Importance	Performance
Not having to work on the weekend. ¹	2.53	2.07	2.34	2.02	2.63	2.10
The prestige and status of the occupational area. ¹	2.59	2.91	2.21	2.83	2.63	2.92
Working outdoors with animals. ^{1,2}	2.74	2.73	3.53	3.64	2.26	2.27
Extensive contact with other veterinarians at work.	3.10	3.10	3.16	2.98	3.15	3.19
Flexible career path that lets me move in many different career directions.	2.98	2.92	3.10	3.03	2.91	2.89
A career where I can get frequent and constructive feedback from a mentor.	3.33	3.05	3.41	3.07	3.32	3.09
Family leave time for childbirth or illness.	3.34	2.95	3.47	2.98	3.31	2.96

¹ indicates a statistically significant difference between the food animal and non-food animal *importance* means

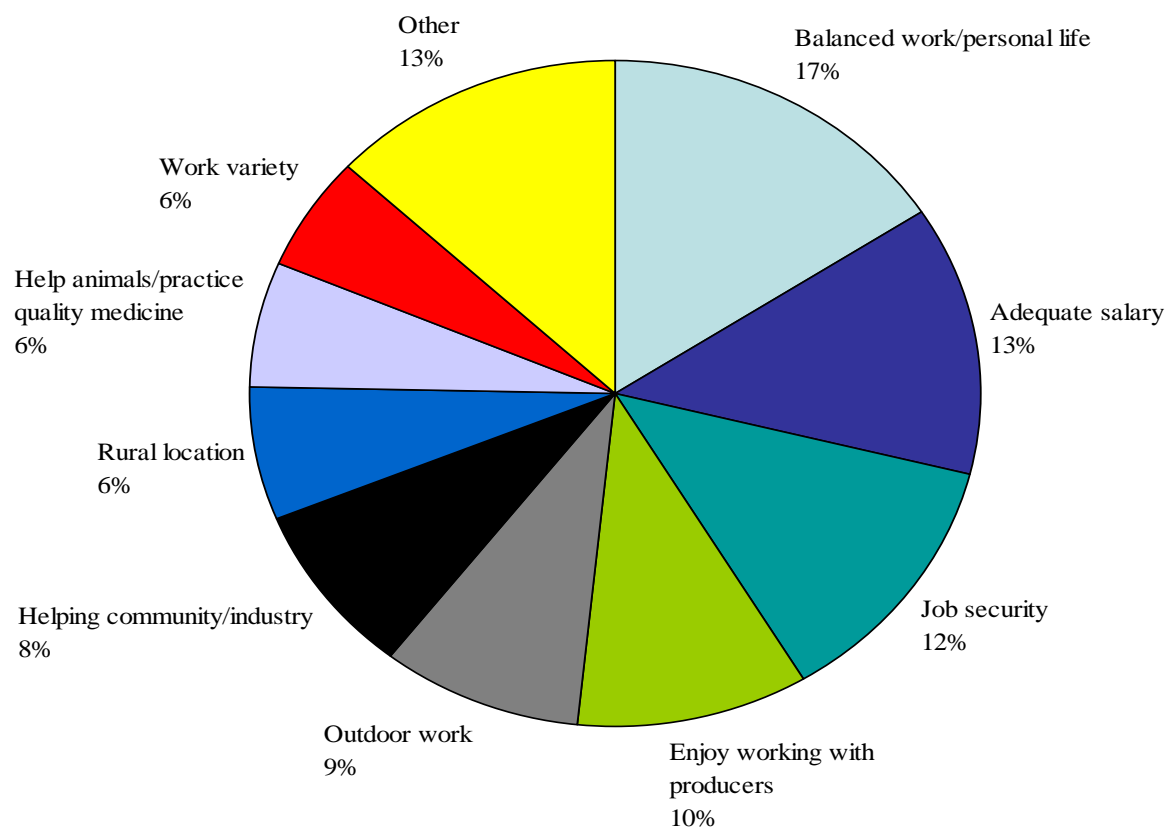
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Importance Questions: Please rate the importance of the following career goals that are *critically important* to you in your decision to make a lifetime commitment to your chosen occupational area.” (Four point scale of “Very Unimportant” to “Very Important”)

Performance Questions: “Please rate how likely your chosen occupational area will allow you to attain each career goal listed.” (Four point scale of “Very Unlikely” to “Very Likely”)

Critical Factor Needed to Make a Lifetime Commitment to Food Animal Medicine

Based on all second and fourth year students who indicated they planned to enter a food animal career



Q88: What one main reason would be *critically important* for you to make a lifetime commitment to a career in food animal veterinary medicine? (open ended responses)

Critical Factor Needed to Make a Lifetime Commitment to Food Animal Medicine

Balanced Work / Personal Life (17%)

Illustrative verbatim quotations from second and fourth year students

“Still having family time”

“I must have enough time in life to do other things other than work”

“Flexible schedule for time with family”

“Having flexible hours and on-call time, I definitely would want to be at a practice with enough vets that we’re not bogged down by work”

Q88: What one main reason would be *critically important* for you to make a lifetime commitment to a career in food animal veterinary medicine? (open ended responses)

Critical Factor Needed to Make a Lifetime Commitment to Food Animal Medicine

**Adequate Salary
(13%)**

Illustrative verbatim quotations from second and fourth year students

“Being able to make enough money to pay off loans and live comfortably.”

“Lifestyle equal to those attainable elsewhere in veterinary medicine.”

“Income suitable to repay school loans, provide for comfortable living and family recreation, and retirement plan”

“Money”

Q88: What one main reason would be *critically important* for you to make a lifetime commitment to a career in food animal veterinary medicine? (open ended responses)

Critical Factor Needed to Make a Lifetime Commitment to Food Animal Medicine

Job Security
(12%)

Illustrative verbatim quotations from second and fourth year students

“Job stability”

“Being able to keep my job even when things in the industry are going wrong”

“A need for good veterinarians in food animal medicine”

Q88: What one main reason would be *critically important* for you to make a lifetime commitment to a career in food animal veterinary medicine? (open ended responses)

Critical Factor Needed to Make a Lifetime Commitment to Food Animal Medicine

Enjoy Working with Producers (10%)

Illustrative verbatim quotations from second and fourth year students

“I love the people in food animals and enjoy working for them”

“Working with good people (producers)”

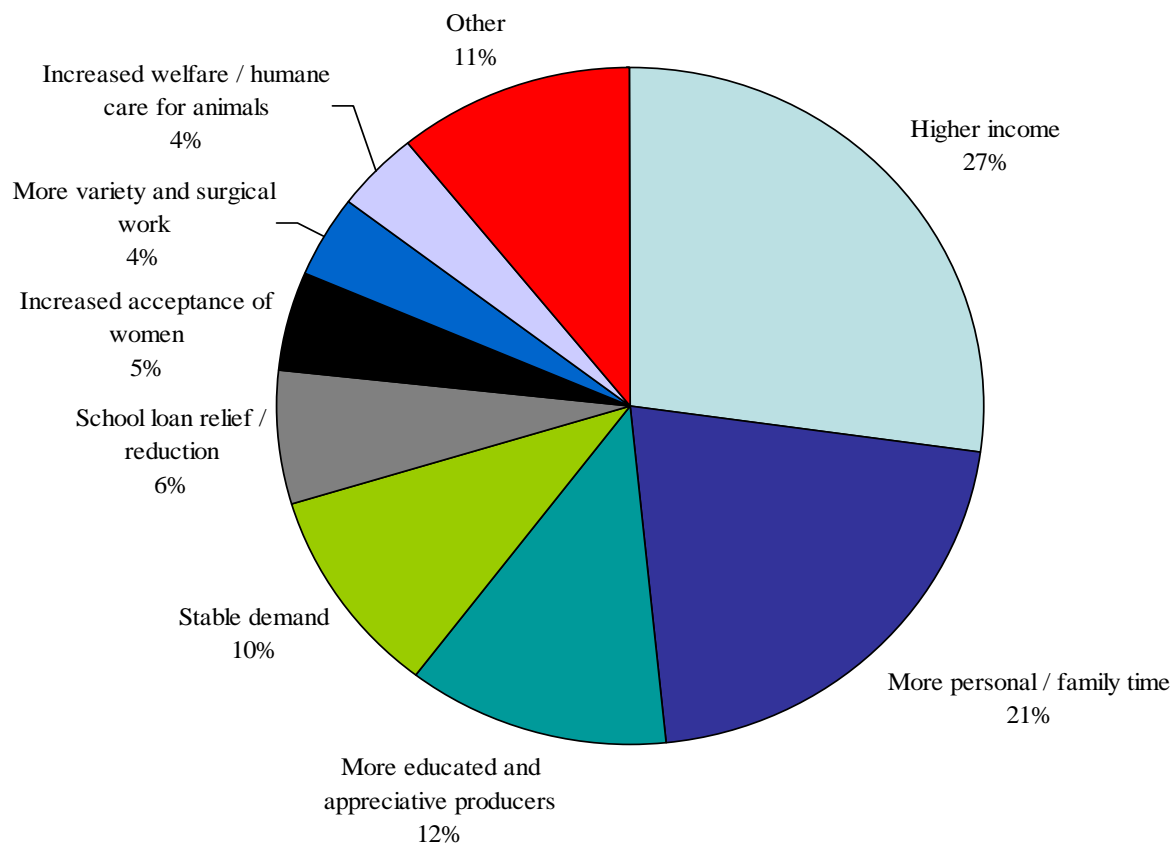
“I love the down-to-earth nature of the farmers”

“Client base”

Q88: What one main reason would be *critically important* for you to make a lifetime commitment to a career in food animal veterinary medicine? (open ended responses)

Major Change Required to Make a Lifetime Commitment to Food Animal Medicine

Based on all second and fourth year students who indicated they planned to enter a food animal career



Q89: What one major change in food animal veterinary medicine would be *critically important* for you to make a lifetime commitment to it? (open ended responses)

Major Change Required to Make a Lifetime Commitment to Food Animal Medicine

**Higher Income
(27%)**

Illustrative verbatim quotations from second and fourth year students

“Increased salary for providing an ever increasingly rare service.”

“The salaries need to be higher. The amount of time and work involved need to be more closely reflected in the pay.”

“Wages more reflective of hours and difficult working conditions.”

“It has to pay more, substantially more, everything else getting dirty the elbow grease you have to put in, the time you have to sacrifice, it's worth it, but only if the salaries are much higher, we have to live as well as work.”

Q89: What one major change in food animal veterinary medicine would be *critically important* for you to make a lifetime commitment to it? (open ended responses)

Major Change Required to Make a Lifetime Commitment to Food Animal Medicine

More Personal / Family Time (21%)

Illustrative verbatim quotations from second and fourth year students

“Enough time / energy off to pursue other things and activities.”

“Fewer emergency on-call hours.”

“Flexible hours and vacation time.”

“Multidoctor practice to provide family and recreation time.”

Q89: What one major change in food animal veterinary medicine would be *critically important* for you to make a lifetime commitment to it? (open ended responses)

Major Changes Required to Make a Lifetime Commitment to Food Animal Medicine

More Educated and Appreciative Producers (12%)

Illustrative verbatim quotations from second and fourth year students

“Farmers would need to be open to change, progression, and the incorporation of technology to make my job as a food animal veterinarian easier and for me to do a better job.”

“The understanding by producers that the cost of veterinary care has increased and that they are paying for more than just treatments.”

“Increasing the awareness and appreciation of herd health management for cow-calf producers and their appreciation of the role of the consulting veterinarian.”

Q89: What one major change in food animal veterinary medicine would be *critically important* for you to make a lifetime commitment to it? (open ended responses)

Major Changes Required to Make a Lifetime Commitment to Food Animal Medicine

Stable Demand (10%)

Illustrative verbatim quotations from second and fourth year students

“More job stability”

“As of right now (BSE crisis, etc), the demand for large animal work has dropped dramatically and jobs are scarce...so I'd want reassurance that it returns to being a more stable industry”

“More job security”

“I don't see the necessity for any change as long as there is enough work available”

Q89: What one major change in food animal veterinary medicine would be *critically important* for you to make a lifetime commitment to it? (open ended responses)