Exploring the Bond

Perceptions of fourth-year veterinary students about the human-animal bond in veterinary practice and in veterinary college curricula

Susan Williams, DVM; Carolyn Butler, MS; Mary-Ann Sontag, PhD

Objective—To assess veterinary students' perceptions regarding the importance of addressing the human-animal bond in veterinary practice and their perceptions about the adequacy of curricula on the human-animal bond as presented in US veterinary colleges.

Design—Survey.

Procedure—Data were collected via a brief questionnaire mailed during the summer of 1996. Questionnaires were returned by 552 senior veterinary students representing 21 of 27 veterinary colleges in the United States.

Results—Senior veterinary students believed that the human-animal bond should be a concern of practicing veterinarians, but most did not believe they were receiving adequate instruction about the human-animal bond in their veterinary colleges. Gender was significantly related to differences in perceptions; female students appeared to have more interest in addressing the human-animal bond than male students. Students in small animal programs viewed the human-animal bond differently than those in large animal programs. Finally, students attending schools with extensive human-animal bond or human relations curricula were more likely to believe they were receiving adequate instruction in this area than students in other schools.

Conclusions and Clinical Implications—Curricula addressing the human-animal bond need to be developed and implemented in veterinary colleges in the United States. (J Am Vet Med Assoc 1999;215: 1428-1432)

A review of the professional literature indicates little attention has been paid to perceptions of veterinary students about their educational experiences in general and almost none to their perceptions about education in human relations and human-animal bond issues. Heath et al. conducted a longitudinal study of students entering the University of Queensland School of Veterinary Science in 1985 and 1986. Students were surveyed during their first, second, and fifth (final) years of study and 2 years after graduation. The authors reported that students' perceptions of the relevance of communication skills to their education increased after the first year. Perceptions of the importance of interpersonal skills were significantly different between the first and fifth years and between the fifth year and the second year after graduation, indicating that over time, and with experience, respondents saw an increased need for these skills.

Adams modified the questionnaire described in our report and, in 1997, surveyed first-, second-, third-, and fourth-year students at the Ontario Veterinary College regarding their perceptions of the importance of human relations and human-animal bond issues in veterinary practice, as well as their perceptions about the adequacy of curricula in these areas. Ninety-nine percent of students responding to Adams' survey believed training in human relations was very important to their future success in practice, and > 75% believed their training in human relations had not been adequate. Adams also surveyed 1995 and 1996 graduates, and their perceptions matched those of the students surveyed. Graduates believed a thorough understanding of human relations was important to successful veterinary practice and that they did not receive adequate training to prepare them for the human side of veterinary medicine.

Despite growing professional recognition of the importance of practicing veterinary medicine in ways that incorporate the human-animal bond, there is little information about how students are being prepared to engage in this type of practice. Curriculum addressing human-animal bond issues is not required as part of the Essentials for Accreditation established by the AVMA's Council on Education (COE), but the importance of such instruction is inferred in the appendices of the COE's Accreditation Policies and Procedures manual. Some veterinary schools have elected to incorporate curricula that address human relations and human-animal bond issues. As part of the aforementioned study, Adams surveyed veterinary schools in North America to gain information about curricula in human relations and the human-animal bond. She reported that 65% (20/31) of those veterinary schools had integrated human relations or human-animal bond information into their curricula, although only 8 schools actually had a designated person in a clinical role in these areas. Eleven schools were identified as having required curriculum on human relations or the human-animal bond, although only 4 required such study in 3 or more years of their program. Eight schools reported offering elective courses in human

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relations or the human-animal bond. Unfortunately, data were self-reported, and specific course content was not examined. One can assume that there is wide variation in what is considered human relations or human-animal bond curriculum within veterinary schools.

Perceptions of US veterinary students regarding the adequacy of their education in human relations and human-animal bond issues may be different than those of students and graduates of foreign veterinary colleges. The study described here was designed to gain information about US veterinary students’ perceptions of the importance of addressing the human side of veterinary medicine in veterinary school curricula. Specifically, we obtained data from respondents at 21 of 27 veterinary colleges in the United States in an attempt to determine whether senior veterinary students believed that clients’ emotional bonds with their companion animals were of concern to them as a practicing veterinarian; whether senior veterinary students believe they are receiving adequate instruction with regard to human-animal bond issues; whether, in retrospect, senior veterinary students would be more likely to attend a veterinary school that offered core courses and electives that address human-animal bond issues; whether senior veterinary students would object to required courses on the human-animal bond; and whether characteristics of respondents and their schools were related to differences in their perceptions.

**Materials and Methods**

The survey developed for this study was designed to assess students’ perceptions in 3 areas: the importance of addressing the human-animal bond as veterinarians, usefulness of curriculum in preparing future veterinarians to effectively address human-animal bond issues, and beliefs about euthanasia and client grief. A future report will describe responses regarding beliefs about euthanasia and client grief. The human-animal bond was defined for respondents as “acknowledgment of the importance of the attachment between companion animals and their owners.”

The questionnaire consisted of 16 items that respondents rated on a 5-point scale, 2 demographic items, and 2 items related to respondents’ practice interests. The questionnaire was reviewed and approved by the Human Subjects Review Board at Colorado State University and a representative of the American Association of Veterinary Medical Colleges. Veterinary schools were contacted by telephone to obtain the name of a contact person and the number of senior veterinary students enrolled. The appropriate number of survey packets, consisting of a cover letter and questionnaire, were mailed to the contact person in July 1990 with instructions that a packet be given to each member of the senior class. Questionnaires were coded by school. Respondents were asked to complete and return the questionnaire within 3 weeks. Straightforward directions for returning the questionnaire and paid postage were used to encourage respondents to participate in the study. Four items from the questionnaire that focused on students’ perceptions of the human-animal bond in veterinary practice or veterinary education were statistically analyzed, and differences between respondents with respect to gender, practice track (eg, small animal, large animal), and school were examined.

As discussed, Adams recently surveyed North American veterinary schools to determine whether information on human relations was included in their curricula. Human relations, as defined by Adams, relates to the ability of a veterinarian to address human-animal-bond issues in veterinary practice. Therefore, schools that she identified as having human relations in their curricula were considered to also be providing instruction in the human-animal bond. Adams reported that 11 schools have required curriculum in this area. Because of the suspected variation in content, only schools with required curriculum in human relations for at least 3 years of a 4-year program were considered to be strong in this area of veterinary education. Responses from these schools were compared to those from other schools as an additional variable.

Data were analyzed using statistical software. In addition to simple frequencies, $\chi^2$ analyses were used to examine relationships between variables; $P < 0.01$ were considered significant.

**Results**

**Response rate**—Twenty-five of 27 veterinary schools in the United States were contacted to participate in the study. Two schools were not included in the study, because they were not in session at the time of data collection. Two thousand sixty-one survey packets were mailed, and 552 useable questionnaires were returned from 21 of 25 schools, representing an approximate response rate of 27%. A precise response rate could not be calculated, because contact people at the schools were not always able to provide the exact number of enrolled senior students and, therefore, 3 to 5 extra questionnaires were mailed to each school. Further, it seems unlikely that packets were actually distributed to students at the 4 schools from which responses were not received, because the return rate from other schools ranged from 15 to 42%. Removing these 4 schools from the calculation increases the response rate to approximately 32%.

**Respondents**—Seventy-one percent ($n = 391$) of respondents were women and 29% ($n = 160$) were men. Respondents ranged from 22 to 43 years old. Seventy-six percent ($n = 419$) of students were between 20 and 29 years old, 19% ($n = 104$) were between 30 and 39 years old, and 5% ($n = 26$) were between 40 and 49 years old. Sixty percent ($n = 326$) of respondents were able to choose a practice track or concentration. Of those respondents who could choose a track, 51% ($n = 166$) selected a small animal track, 19% ($n = 62$) selected a large animal track, and 30% ($n = 98$) chose a general track. Respondents were also asked to identify their primary species of interest. The most frequently mentioned species was canid. Twenty percent ($n = 106$) of those responding to this item identified canids as their primary species of interest, and an additional 23% ($n = 121$) identified canids in combination with another animal(s) as their species of interest.

Students were also asked about their emotional attachment to their companion animals. Ninety-seven percent ($n = 330$) of respondents reported that they were emotionally attached to their companion animals. Eighty-eight percent ($n = 341$) of female respondents and 59% ($n = 93$) of male respondents stated that they strongly agreed that they were emotionally attached to their companion animals.

**Perception of the human-animal bond as a veterinary domain**—Respondents clearly believed that as
Table 1—Perceptions of the human-animal bond as a veterinary domain

<table>
<thead>
<tr>
<th>Variable</th>
<th>SA % (n)</th>
<th>A % (n)</th>
<th>N % (n)</th>
<th>D % (n)</th>
<th>SD % (n)</th>
<th>Total %* (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Male</td>
<td>49 (79)</td>
<td>41 (66)</td>
<td>4 (7)</td>
<td>4 (6)</td>
<td>1 (2)</td>
<td>99 (160)</td>
</tr>
<tr>
<td>Female</td>
<td>71 (275)</td>
<td>27 (106)</td>
<td>1 (3)</td>
<td>1 (5)</td>
<td>0 (0)</td>
<td>100 (389)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pearson χ²</th>
<th>Degrees of freedom</th>
<th>P value</th>
<th>Valid responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.47</td>
<td>4</td>
<td>&lt; 0.01</td>
<td>549</td>
</tr>
</tbody>
</table>

Required human relations curriculum (3 to 4 years)

<table>
<thead>
<tr>
<th>Value</th>
<th>Degrees of freedom</th>
<th>P value</th>
<th>Valid responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>75 (74)</td>
<td>23 (23)</td>
<td>2 (0)</td>
</tr>
<tr>
<td>No</td>
<td>62 (280)</td>
<td>33 (149)</td>
<td>2 (8)</td>
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<table>
<thead>
<tr>
<th>Pearson χ²</th>
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</tr>
</thead>
<tbody>
<tr>
<td>7.39</td>
<td>4</td>
<td>&gt; 0.01</td>
<td>549</td>
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</tbody>
</table>

Practice track (by animal type)

<table>
<thead>
<tr>
<th>Value</th>
<th>Degrees of freedom</th>
<th>P value</th>
<th>Valid responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>77 (127)</td>
<td>22 (36)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Large</td>
<td>45 (28)</td>
<td>50 (31)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>General</td>
<td>65 (63)</td>
<td>33 (31)</td>
<td>3 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pearson χ²</th>
<th>Degrees of freedom</th>
<th>P value</th>
<th>Valid responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.37</td>
<td>8</td>
<td>&lt; 0.01</td>
<td>325</td>
</tr>
</tbody>
</table>

*Round-off error may cause total to not equal 100%.

Veterinarians they would need to address human-animal bond issues (Table 1). Students were asked to respond to the following, using a 5-point scale: “The client's emotional bond with their companion animal is clearly my concern as a practicing veterinarian.” Ninety-six percent (n = 526) of respondents agreed with this statement. Female respondents were significantly more likely than male respondents to agree that clients’ emotional bonds with companion animals were their concern as veterinarians (χ² [4, 549] = 31.47, P < 0.01). Ninety-eight percent (n = 97) of respondents from schools with 3 or more years of required curriculum in the human side of veterinary medicine and 95% (429) of respondents from other schools agreed that clients’ emotional bonds with companion animals would be their concern as practicing veterinarians; the difference between these groups was not significant. Practice track selected by the respondents was related to their perception about the need to address human-animal bond issues. Whereas most respondents in all tracks agreed that clients’ emotional bonds with companion animals would be their concern as practicing veterinarians, there were significant differences between respondents enrolled in the 3 tracks. Respondents in small animal tracks were more likely to agree that clients’ emotional bonds with companion animals would be their concern as practicing veterinarians (χ² [8, 325] = 28.37, P ≤ 0.01).

Perception of curriculum on the human-animal bond—Fewer than one-half of respondents believed they were receiving adequate instruction in human-animal bond issues (Table 2). Thirty-nine percent (n = 213) of respondents agreed with the following statement: “I am receiving adequate instruction (lecture hours, practical experience, etc) in regard to the human-animal bond.” Respondents who attended schools with curriculum specifically designed to address these issues were significantly more likely to agree that they were receiving adequate instruction than respondents in schools without such curriculum (χ² [4, 550] = 32.39, P ≤ 0.01). Gender was related to perceptions of adequacy (χ² [4, 550] = 19.53, P ≤ 0.01). Fifty-six percent (n = 217) of female respondents did not believe they were receiving adequate instruction in human-animal bond issues; 36% (58) of male respondents did not believe they were receiving adequate instruction in this area. Practice track selected by respondents was not related to perceptions about the adequacy of instruction in human-animal bond issues.

Respondents were asked if they would be more likely to attend a veterinary school that offered core and elective curriculum that addressed the human-animal bond (Table 3). Twenty-nine percent (n = 161) of respondents answered affirmatively, 36% (198) had no opinion, and 34% (189) would not attend one school over another on the basis of core and elective curriculum that addressed the human-animal bond. Respondents attending schools that had required curriculum related to the human side of veterinary medicine during at least 3 years of their programs were more likely to agree that they would select a school that offered core and elective curriculum addressing human-animal bond issues (χ² [4, 548] = 16.65, P ≤ 0.01). Female respondents were much more likely to agree that they would be likely to attend a veterinary school that offered core and elective curriculum addressing the human-animal bond. Thirty-six percent (n = 138) of female respondents and 14% (23) of male respondents agreed with the statement; the difference between genders was significant (χ² [4, 548] = 46.08, P
Respondents who selected small animal tracks were much more likely to agree that they would prefer to attend a veterinary school that offered core and elective curriculum that addressed the human-animal bond. Thirty-nine percent (n = 64) of respondents enrolled in small animal tracks agreed with the statement, whereas only 16% (10) of respondents in large animal tracks and 27% (26) of respondents in general tracks agreed. Differences in responses between students enrolled in various tracks were significant (χ² [8, 324] = 28.49, P ≤ 0.01).

Seventy-six percent (n = 421) of respondents did not object to required courses on the human-animal bond during their veterinary education, 12% (64) had no opinion, and 12% (66) reported that they did object to required courses on the human-animal bond (Table 4). Respondents attending schools that had required curriculum related to the human side of veterinary medicine during at least 3 years of the program were less likely to object to required courses that addressed the human-animal bond (χ² [4, 551] = 10.40, P ≤ 0.01). Male respondents were more likely to object to required courses on the human-animal bond. Twenty-one percent (n = 33) of male respondents and eight percent (33) of female respondents objected to required courses on the human animal bond; the genders were significantly different in their responses (χ² [4, 551] = 57.86, P ≤ 0.01). Respondents enrolled in large animal tracks were more likely to object to required courses on the human-animal bond than those in general or small animal tracks. Twenty-one percent (n = 13) of respondents enrolled in large animal tracks objected to required courses on the human-animal bond, whereas 7% (12) of those selecting small animal tracks and 8% (8) of those in general tracks objected. Differences between responses of students enrolled in various tracks were significant (χ² [8, 326] = 21.10, P ≤ 0.01).

**Discussion**

Ninety-six percent of veterinary students responding to our survey believed that addressing the bonds owners have with their companion animals is within the professional domain of veterinary medicine. This finding is consistent with responses to Adams’ and Heath’s surveys. Ninety-six percent of students responding to our survey and 99% of respondents participating in Adams’ study believed it was important to address connections between owners and pets. Data collected from Australian veterinary students indicated that perceptions about the importance of interpersonal skills in veterinary practice increased over time. Although each of the 3 studies differed in the variable being explored, all asked students to reflect on the importance of skillfully dealing with human clients. Students participating in these studies overwhelmingly agreed that a good understanding of human-animal relationships was relevant to veterinary practice.

Sixty-one percent of respondents to our survey believed that current curricula did not adequately address human-animal bond issues. Again, this result is consistent with that of Adams, who found that 68% of fourth-year respondents did not believe they were receiving adequate instruction in the human-animal bond. Respondents from schools identified by Adams as having required course work in human relations for at least 3 years were more likely to report that they were receiving adequate instruction in the human-animal bond. This is an encouraging finding that supports the efforts of those working to develop and deliver such curriculum to students. Although many veterinary colleges reported having course work in human relations, schools with the most structured human
relations curriculum (≥ 3 years required) appear to be the perceived needs of students in this area. Most students do not object to required courses on the human-animal bond. Only 12% of respondents in our study objected to such a requirement. This is consistent with findings from Adams, who reported that 12% of fourth-year respondents in her study indicated they objected to required course work on the human-animal bond. Nearly one-third of respondents to our survey would select a school that offered core curriculum on the human-animal bond over a school that did not. Thus, it appears that there is a demand or perceived need for curricular content related to the human-animal bond, and students are receptive to its inclusion in veterinary education. Further, it appears that for a substantial minority of students, such content would influence selection of school.

Results from this study delineate some interesting gender differences. Female students differed significantly from male students in their responses to each of the evaluated items. Women were more likely to agree that they were emotionally attached to their own companion animals, clients’ emotional bonds with companion animals should be a concern of practicing veterinarians, curriculum in the human-animal bond at their schools were inadequate, and they would be more likely to choose a school with a human-animal bond curriculum over one that did not have such course work available. Men were more likely to object to required course work on the human-animal bond than women. These findings appear to reflect gender stereotypes; however, they also indicate that traditional veterinary curricula may not be meeting the needs of female students for instruction in human-animal relationships. The Accreditation Policies and Procedures manual of the AVMAS COE clearly states that the process of curriculum development should “recognize and support the increasing diversity of students admitted to veterinary colleges.” Schools that are committed to offering curricula that reflect and respect differences may need to reevaluate the needs and expectations of students on the basis of gender.

Students enrolled in different practice tracks also responded differently to survey items. Although most respondents in this study viewed the emotional connection between owners and companion animals to be a veterinary domain, students enrolled in small animal tracks were more likely to agree that this was something they needed to be concerned about as practicing veterinarians. Practice track was also related to whether a respondent would choose one school over another on the basis of availability of courses in the human-animal bond. Students in small animal tracks were more likely to answer this item affirmatively. Finally, respondents enrolled in small animal tracks were less likely to object to required curriculum in the human-animal bond than respondents in large animal tracks. Practice track was not related to perceptions of adequacy of human-animal bond curricula.

The finding that, as a group, respondents in small animal tracks perceive the importance of the human-animal bond differently than those in large animal tracks is interesting, although perhaps not surprising. Although the human-animal bond is not limited to companion animals and their owners, respondents enrolled in large animal tracks may not view the human-animal bond in the same way as small animal practitioners, especially if much of their practice is expected to involve food animals. However, it is important to recognize that individuals who rely on animals for their livelihood can also develop bonds with their animals, although the basis for these bonds may be different than for the traditional human-companion animal bond. Regardless of its basis, the existence of a bond between humans and animals requires that veterinarians skillfully deliver services that are sensitive to the needs that the bond creates.

Our study is not without limitations. A higher response rate would have allowed us to generalize results. Because limited information was obtained about respondents, it is impossible to determine whether they were representative of the general veterinary student population, and findings should be viewed accordingly. Data were collected during the summer of 1996, and current perceptions may be different at schools where the curriculum has changed.

This study is properly viewed as a foray into an important field: perceptions about the need for veterinary curricula addressing human-animal issues. As such, it offers important and useful information that suggest future areas of research. A replication of this study with a random sample and a more detailed questionnaire could yield important data about students’ perceptions of human-animal bond issues and related curricula. Research efforts could then be focused on curriculum development and the most appropriate means of delivering curriculum on the human-animal bond. Finally, it is important to demonstrate through research that attention to the bond is more than just intuitively appealing. Research that explores whether veterinary practice that attends to the human-animal bond is more rewarding on the basis of quantifiable indicators would be a valuable contribution to the field.


References

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