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Authors

Graham, John L

Cron, William

Gilly, Mary

et al.

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John L. Graham
William L. Cron
Mary C. Gilly
John W. Slocum, Jr.

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**A Behavioral Study of Pricing Decisions for Professional Services:
A Focus on Gender***

John L. Graham
The Paul Merage School of Business
University of California, Irvine
Irvine, CA 92697
(949) 824-8468
jgraham@uci.edu

William L. Cron
Marketing Department
The M. J. Neeley School of Business
Texas Christian University
Fort Worth, TX 76129
(817) 257-7534
b.cron@tcu.edu

Mary C. Gilly
The Paul Merage School of Business
University of California, Irvine
Irvine, CA 92697
(949) 824-6154
mcgilly@uci.edu

John W. Slocum, Jr.
Department of Management and Organizational Behavior
The Edwin L. Cox School of Business
Southern Methodist University
Dallas, TX 75275
(214) 768-3157
jslocum@mail.cox.smu.edu

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A Behavioral Study of Pricing Decisions for Professional Services: A Focus on Gender

Abstract

Professional service providers (e.g., doctors, lawyers, architects, management consultants, and veterinarians) can engage in dynamic pricing, that is, varying prices among customers. Yet, little is known about how professionals set prices for their services. With the increase in the proportion of women in many professions, it is important to understand the influence of gender on the setting of prices for professional services. A field experiment using an in-basket approach to study pricing decisions reveals that women tend to set lower prices than men for the same services offered. The relationship between gender and price setting was also found to be mediated by a veterinarian's relationship orientation. Further, women professionals were influenced by the number of the associates in their practices and the clients' characteristics in setting prices while men's prices were unaffected by such considerations. The findings hold important implications for theories about price setting decisions particularly related to considerations beyond the traditional economic ones.

A Behavioral Study of Pricing Decisions for Professional Services:

A Focus on Gender

Price is a fundamental concept in economics. Economists often study how prices are determined in markets at the macroeconomic level. Marketing scholars study pricing at the managerial level, recommending how companies should set prices; costs, competition, customers, and corporate strategies are all part of the calculus prescribed. Winer (2005, p. 3) adds, “Price is also a communications decision, signaling to the customer the value and quality of the product relative to competing products.” Bolton, Warlop and Alba (2003) suggest that people’s judgments about the fairness of prices are influenced by the cost of the offering.

Whereas data and scientifically derived formulas provide parameters for pricing decisions, *people* still make the actual decisions. Marketing scholars have studied behavioral aspects of non-pricing marketing decisions (e.g., Tse, Lee, Vertinsky, and Wehrung 1988) and even how buyers respond to prices offered, including negotiations between buyers and sellers. Little attention has been given, however, to the behavioral aspects of pricing decisions (cf. Monroe 2003 and Winer 2005), although some studies have hinted at traits of pricing decision makers such as “risk aversion” (Bhardwaj 2001) and “overconfidence” (Montgomery and Bradlow 1999).

The focus of this study is the effects of gender on pricing decisions for professional services. Gender has been shown to be important in economic decision-making contexts, such as investment decisions in behavioral finance (e.g., Mohan 2004; Felton, Gibson, and Sanbonmatsu 2003; Dwyer, Gilkeson, and List 2002; and Schubert, Brown, Gysler, and Bachinger 1999), and negotiations (e.g., Baron 2003; Kray, Galinsky, and Thompson 2002; and Croson and Buchan 1999). Gender’s influence on pricing decisions has not been considered systematically. This is especially surprising given the vast literature on pricing in marketing. We contribute to the marketing literature by conducting a field experiment to examine the effects of gender on pricing

decision making. Moreover, we shed light on the process by which gender influences price setting through relationship orientation, which consists of fear of negative evaluation and client empathy. The resulting lower price quotes partially explain the lower income observed for female professionals.

The context for this study is professional services. The most recent U.S. Census Bureau statistics indicate that professional service organizations (NAICS Codes 541 and 621) account for over \$138 billion in revenues from a little more than 4 million establishments, and represent 11.4% of GDP (U.S. Census Bureau 2003; Bureau of Economic Analysis 2005). A professional services context for examining the behavioral aspects of pricing is pertinent for four additional reasons. First, professional services represent a significant part of the U.S. economy and little is known about how professionals make pricing decisions. Certainly there is less research on pricing of services than pricing of goods (for recent notable exceptions, see Bolton and Myers 2003; Bolton and Alba 2006). Consumer price perceptions, rather than service provider price setting, dominates this literature. Second, in service businesses there is a greater opportunity for transactional pricing flexibility because the cost of goods sold are typically very small relative to price. This is unlike the typical relationship in product focused businesses where there is much less opportunity for discounting due to high product costs. In professional service organizations, labor costs account for the majority of operating costs, with the service professional often being the sole proprietor. The service professional has the opportunity and means by which to exercise considerable pricing discretion, particularly for individual transactions. Third, in the professions generally (medicine and law are two prominent examples) women are headed fast toward becoming the majority of practitioners in the United States (Conlin 2003). Thus, with increasing frequency, professional women will be making pricing decisions. There is some empirical evidence that gender effects may occur. In a study of mortgage lenders, for instance, it was found that gender played a major role in compensation. Woodward (2003) found that female brokers made \$575 less per loan than did their male peers making similar loans. She posits that the female

brokers charged lower fees compared to males because they were more concerned about establishing a good relationship and being “nice” than were men, but this explanation was not empirically tested. Fourth, a growing literature in negotiations suggests that women tend to settle for lower prices and lower profits in behavioral experiments (Babcock and Laschever 2003).

Although there has been disagreement as to whether specific service providers should be considered professionals (Thakor and Kumar 2000), it is generally agreed that professional service providers possess expertise due to their formal education and ability to use expert judgment in the process of service delivery. In addition, professionals typically have a recognized group identity with professional associations providing managerial advice and often self-regulation (Hill, Garner and Hanna 1989). These characteristics of professional services have important implications for price setting. For example, pricing is less straightforward for services in general and for professional services in particular due to the customized nature of the services provided. Nagle and Holden (2002, p. 202) suggest that “when customers purchase unique products...prices permit the seller to price based on the buyer’s ability and willingness to pay.” Further, most professional services are purchased infrequently by individual consumers, affording the latter little reference price information (Auty 1996). Because the client has little knowledge of the service requirements, they rely on the service provider to frame the problem in ways they can understand. Professionals have the option of engaging in “dynamic pricing” whereby customers are charged different prices for identical services (Winer 2005). In general, the market environment for services pricing is ideal for the study of behavioral effects on transactional pricing decisions.

This study is designed as a field experiment involving a national sample of more than 500 practicing veterinarians who own and run their own practices. Others have employed similar approaches to studying pricing decision-making (e.g., Noble and Gruca 1999). Veterinarians meet all the requirements for being classified as professional service providers, i.e., formal higher education, expert judgment used in service delivery, credence qualities, etc. Like other

professional services, the influx of women into the profession is significant, with women accounting for the majority of students attending veterinary medicine schools (Volk, Felsted, Cummings, Slocum, Cron, Ryan, and Moosburger 2005). There are no published price lists by the AVMA or product costs to limit their ability to adjust prices in individual transactions.

THE LITERATURE AND HYPOTHESES

Gender is a compelling topic for behavioral studies in professional practices because the representation of women in professional graduate programs has grown rapidly in the past two decades. The percentage of female law students, for instance, has grown from less than 10% in the 1970s to roughly 49% in 2002, according to the American Bar Association. Likewise, the percentages of women in medical and veterinary schools were reported by their respective professional associations to be 45% and 72% in 2005. Relatedly, women are the largest single identifiable group forming new businesses in the United States; they now found businesses at twice the rate of men (DeMartino and Barbato 2003).

Although the entry of women into professions is certainly laudable from a diversity and equity perspective, one often heard concern is the impact of gender mix on the income in these professions. Studies of gender related income levels in the legal, dental, medical, and veterinary professions all find that women earn significantly lower incomes than their male counterparts (Cron, Slocum, Goodnight, and Volk 2000; Volk et al. 2005). Not only does a salary gap exist, but it seems to widen rather than decline as years of experience increase (Brown and Silverman 1999). Part of the salary gap is due to the tendency of female professionals to work as associates in practices owned by male professionals. The income gap remains, however, even among professional practice owners. The reasons behind the apparent lower incomes of female professional practice owners are not well understood. A sizable gap in income still exists even after accounting for the fewer hours worked by women professionals, their lower earnings expectations, and their choice of a profession for reasons other than income potential. Put simply,

the explanation for a seemingly self-imposed income gap between male and female professionals has not been articulated.

An intriguing possible explanation for the owner gender-income disparity is that women may price their services differently than men. In professional service practices, the marginal cost of the service is only a small fraction of the price. This permits considerable price flexibility. Prices have been found to have a greater impact on profits than other financial decisions, including fixed costs, variable costs, and revenues (Marn and Rosiello 1992). Professional practices are typically organized as limited liability corporations (LLC) due to liability protection and tax advantages from expense deductions. The owner of an LLC does not build up extensive retained earnings in the firm. Instead, they pay themselves a salary and possibly a bonus at the end of the year so that the LLC's tax burden is minimized. As a result, an owner's income is the most appropriate measure of a professional business' financial performance.

To price effectively, a number of issues must be considered including the organization's strategic objectives, customers targeted, competitive position (e.g., dominant competitor or weaker player), and costs (Monroe 2003). Professional services providers, however, often do not take such a complex approach to setting their prices. Physician prices are highly regulated, for instance, and driven largely by third party payers. In the veterinary profession, the American Veterinarian Medical Association (AVMA) does not publish fees or formal price guidelines for professional services. Therefore, there is a great deal of pricing flexibility in individual transactions. Combine these factors with the lack of formal training professionals receive in business practices and pricing in particular, and the whole process of setting prices is idiosyncratic. As a result, professional service practices are fertile situations for examining the effects of gender on pricing. The literature reviewed below suggests that gender will not only affect the level of prices but also how prices are set. Thus, we expect to find that women will both set lower prices than men and will also attend to different cues for setting prices.

Gender and Price Setting

Dynamic pricing decisions afford professional service providers the flexibility to set prices differently from one client to the next. While it is certainly true in the United States that customers often accept “asking prices,” such set prices may also be seen simply as “first offers” in a negotiation. Only one study could be found considering the influence of gender on first offers. Calhoun and Smith (1999) report that women make lower first offers (and have lower profits) than men. However, the differences were moderated when negotiators were given external reasons to resist yielding and be concerned for their own outcomes.

A growing literature reports that generally women fare worse than men in negotiations (e.g., Myers 1996). The results of hundreds of studies (e.g., Lewicki, Litterer, Minton, and Saunders, 1994) have found that men achieve more than women in negotiations. The contrary findings almost always suggest that no differences exist (e.g., Carnevale and Lawler 1987). When differences are found however, they almost always support that men are better negotiators than women. Researchers in psychology report the results of a meta-analysis: “In the sample of [twenty-one] studies, men negotiated significantly better outcomes than women” (Stuhlmacher and Waters 1999, p. 653). In the only study in the marketing literature on the topic Neu, Graham, and Gilly (1988) reported that women negotiators achieved lower individual profits than men in simulated buyer-seller negotiations.

Price setting in labor markets, with the obvious exception of union-management negotiations, represents a more personal kind of interaction – the salary negotiation. The evidence reflecting gender differences in negotiation performance is clear – women make lower salaries across fields (Robinson 1998). Of course, it is often argued that gender discrimination is the main cause of the huge salary differentials across job categories. Babcock and Laschever (2003) provide compelling evidence that at least part of the problem has to do with women’s reluctance to negotiate higher salaries. Barron’s (2003) research supports this view by providing clear evidence that women’s (men’s) beliefs about appropriate behavior leads them to ask for less (more) in salary negotiations.

The explanations for women's lower results across settings are many. Stuhlmacher and Walters (1999) describe three: (1) *perceptions and expectations* that men are more effective negotiators and that women feel that they are less entitled to rewards (Kray, Galinsky, and Thompson 2002; Barron 2003); (2) men's *behaviors* are more aggressive (Walters, Stuhlmacher, and Meyer 1998) including threats, questions, and interruptions; and (3) men hold higher *status and power* in organizations leading to better outcomes for them.

Schneider, Rodgers, and Bristow (1999) report that women tend to score lower on their negotiation propensity scale than men. Women simply like to negotiate less than do men. Likewise, Babcock, Laschever, Gelfand, and Small (2003) found that women are less likely to negotiate in business settings in part because the company's culture often discourages them. Babcock and Laschever (2003) most parsimoniously conclude that "women don't ask" for more while men do. Neu, Graham and Gilly's (1988) findings are consistent with this last view. That is, in the simulated negotiations they studied, businesswomen tended to ask fewer questions. The authors concluded that this was a cause of the lower profit levels achieved by the women (i.e., gender → questions → profits).

So, the literature is quite consistent pertinent to the present study and leads us directly to the first hypothesis:

Hypothesis 1: Women professionals will set lower prices than men for identical services.

Women Are More Relationship Oriented

Perhaps the most important and often mentioned explanation for women's performance is their higher values for personal relationships. Almost all authors in the field echo this theme.

Rubin and Brown (1975, p. 173) conclude:

Our argument is not that males and females differ in their inherent propensity to bargain competitively with another, but rather they are sensitive to different cues.

Women, like high IOs¹ (and cooperative IOs, in particular), are highly sensitive and reactive to the interpersonal aspects of their relationship with the other. Males, like low IOs, orient themselves not to the other, but to the impersonal task of maximizing their own earnings.

This perspective is justified by Winer's (2005) reference to pricing as form of communication. To the extent that someone is a high IO they would tend to take into account the personal characteristics of their customers and adjust their communication/pricing accordingly.

Babcock and Laschever (2003, p. 116) also address the issue of why women don't ask, and attribute this "lack of action" to "...women's fear that asking for something they want may harm the relationship with the person they need to ask." In moral decision making, men tend to use the values of justice and rights as a basis, while women "more often value responsiveness and the preservation of relationships" (Fowers, Applegate, Tredinnick and Slusher 1996, p. 162). Researchers using Watson and Friend's (1969) measure of "fear of negative evaluation" have reported that women have greater fears of negative evaluation in social settings (Vera-Villarreal, Sanchez, and Cachinero 2004 and Monfries and Kafer 1994). The fear of negative evaluation is based on the anxiety that may arise in social settings. People with a high fear of negative evaluations tend to worry about the prospect of receiving negative evaluations from others, are concerned about receiving approval from others, and avoiding disapproval. To avoid being vulnerable to receiving negative evaluations, people may avoid or otherwise modify a situation in which they are required to make decisions. Further, fear of negative evaluation has also been found to be associated with lower managerial aspirations and performance. These researchers argue that women have less of a motivation to obtain higher monetary rewards than do men.

Ruderman and Ohlott (2006) agree, but take the argument a bit deeper by identifying a fundamental difference in the purposes of female and male speech. Women use language to create intimacy whereas men use language to establish hierarchy. Hofstede (2001) reports that at

¹ A fundamental dimension of Rubin and Brown's thinking on negotiation behavior is what they refer to as Interpersonal Orientation or "IO."

IBM men ranked work goals such as advancement and earnings higher than IBM women, and women ranked a friendly atmosphere and cooperation higher than men. Stuhlmacher and Walters (1999) make almost an identical observation based on their meta-analysis of gender and negotiation studies in psychology. Demonstrative of this view is a recent statement reported in a veterinary medicine trade publication:

Making more money isn't a great motivating factor for me," says Nancy Katz, DVM, owner of a three-year-old startup in Upper Montclair, NJ. "My bigger motivation is to have a great team, provide good-quality medicine and be happy with what I do. (Fiala 2005, page 69)

Finally, Camerer's research (D'Antonio 2004) attributes women's emphasis on relationships to brain function. His subjects played a game while in an MRI. He reports that after a decision:

Men seem to shut down once the decision is made. In women, the process continues, and the caudate, which is a sort of error-checking center, continues to work as if it's considering whether the right choice was made. There is also more activity in the parts of the brain that relate to social worry, as if someone is wondering, "How is the other person going to react to what has happened here." (p. 20)

The research on gender and empathy supports the idea that women are more sensitive to relationship partners. In marketing, work draws on the views of social psychologists who consider empathy a trait, with some individuals more empathetic than others, whether due to nature or development (Duan and Hill 1996; Hall, Davis and Connelly 2000). Empathy is defined as "the ability to understand another person's perspective and to react emotionally to the other person" (Stock and Hoyer 2005, p. 541). Empathy is considered a component of customer orientation and has been found to moderate the relationship between customer oriented attitudes and behaviors (Stock and Hoyer 2005; Widmier 2002). Gelfand et al. (2006, p. 434) report that a similar construct, relational self-construal (RSC), has been found to be more accessible for women, "with women generally scoring higher on RSC and its associated processes than men." As well, Hall, Davis and Connelly's (2000, p. 52) study of psychologists found that practitioner

females had significantly higher scores on empathetic concern than males or either gender of psychologists classified as scientists. The authors suggest that “clinical work would naturally be more attractive to prospective psychologists who are high on empathetic concern...compared to prospective psychologists who do not have [this characteristic].”

This literature suggests a series of hypotheses. First, relationship orientation should mediate the relationship observed between gender and prices set. Testing for mediation requires examination of two specific hypotheses. They are:

Hypothesis 2: Women will be more relationship-oriented than men.

Hypothesis 3: People who are more relationship-oriented will set lower prices.

Based on this literature, we also predict that women professionals with greater relationship orientation will offer of lower prices to clients perceived to be needier. Alternatively, men will be less influenced by the client attributes, even those with a greater relationship orientation. Thus:

Hypothesis 4: The relationship between customer attributes and prices set will be moderated by gender of the professional.

The expectation that women will consider customer attributes when pricing is consistent with the idea that women representing others will tend to ask for more in a negotiation than women only representing themselves (Bowles, Babcock, and McGinn 2005). Because women will focus on the needs of associates to a greater degree than men, they will be “triggered” to seek greater prices and behave more aggressively when in a representational role. Such “gender triggers” will moderate relationships between numbers of associates represented and price. Pruitt (1981) concurs and avers that representatives (not necessarily male or female) may overestimate the demands of their constituents. Bowles et al. (2005) found in a laboratory study with executive training program participants this hypothesized “gender trigger.” In the present study we have the opportunity to further test this hypothesis:

Hypothesis 5: The relationship between the number of associates at the practice and the price set will be moderated by the gender of the professional.

Consequences of Pricing Decisions

Marn and Rosiello (1992) have characterized pricing decisions in three levels of related decisions: industry economics, product/market strategy, and transactions.² At the industry level, basic laws of economics come into play including supply, demand, and costs. With product/market pricing decisions, the central issue is how customers perceive the benefits of products and services across available suppliers. If a product delivers more relevant benefits to a target market, then a company can charge a premium vis-à-vis its direct competitors. At the transaction level, the critical issue is how to manage the price charged for *each* transaction – customer-by-customer and transaction-by-transaction.

The volume of transactions has two effects on transactional level pricing. First, higher numbers of transactions tend to create a sort of “smoke screen” making it difficult for both buyers and sellers to track and fully understand what has been called a company’s “pocket price;” that is, the actual money that the company makes on a transaction versus list price or association price guidelines. Second, the higher volume of transactions has the effect of magnifying the influence of even small price changes on profits. Marn and Rosiello (1992), for instance, found that in a data base of 2,463 publicly held companies, a one percent change in price led to an average change in profits of 11.1 percent.

Empirical evidence on the impact of price adjustment decisions at the transactional level is provided in the sales management literature with respect to providing sales representatives with pricing flexibility (Mishra and Prasad 2005; Joseph 2001; Lal 1986; Stephenson, Cron, and Frazier 1979). These studies find that pricing authority, that is the flexibility to set prices within certain parameters transaction-by-transaction, leads to lower profits and lower commissions. These results hold true regardless of the salesperson’s market knowledge and compensation plan. In essence, the motivation to successfully complete the transaction either supercedes both profit

² These three categories share some similarities to those proposed by Tellis (1986) consisting of differential pricing, competitive pricing, and product line pricing.

and income motives or the decision-makers feel that any short-term losses can be made up in the future.

It was pointed out earlier that most professional practices are set up as limited liability corporations (LLC). It is common in LLCs to minimize retained earnings by taking out year-end bonuses in order to avoid a double-taxation situation (i.e., paying taxes on business profits and then paying personal taxes on profits subsequently withdrawn from the business). Therefore, the most appropriate and commonly used measure of the financial performance of an LLC is owner's income. Thus:

***Hypothesis 6:** Higher prices set for a given treatment will result in higher (profits per transaction and) incomes.*

It is worth noting that the pricing decision in this study is made within the context of an in-basket exercise. One advantage of this methodology is that situational cues can be controlled and manipulated. The primary disadvantage to in-basket exercises is that external validity may be compromised such that the results are not representative of respondents' real or normal behaviors. In this study, owner income is measured by reported income. So to a certain extent, a positive relationship between the price quoted in the in-basket exercise and actual owner income is a test of the external validity of the exercise results.

METHODS

Sample and Data Collection

To mitigate against industry effects and to compare results for similar service offerings, a single industry was sampled. Veterinarians, specifically those practicing in the \$4.5 billion "companion pets" category, were included in the study. Variable costs are relatively low in each transaction. All practicing veterinarians receive the same level of educational preparation, and veterinary schools did not include any business training in their curriculum at the time of the study. The sample was drawn from a larger study by the American Veterinary Medical

Association (AVMA). The AVMA mailed 15,000 survey questionnaires to a random sample of member veterinarians. Responses were received from 4,392 veterinarians for a 29.3 percent response rate.

For the purposes of this study, only responses from sole proprietor owners were included, excluding associates who did not own their practices, veterinarians working for publicly held firms, and owners of partnerships. These restrictions resulted in a sample of 536 owners, including 174 women (33%) and 362 men (67%), which is comparable with the 36% of all veterinarians that are female (Brown and Silverman 1999). As a further check of the representativeness of this sample of all veterinarians in the U.S., the average income of veterinarians in this study (\$65,372) was found to be just slightly higher than the government figure of \$57,130 reported the year before the study was conducted (U.S. Department of Labor 2005).

Measures

The measures used in the study are described below in the order in which they appear in Figure 1 and Table 1.

[Insert Figure 1 and Table 1 about here]

Gender. Each respondent checked either male or female on the questionnaire.

Relationship Orientation. Relationship Orientation is measured by combining two indicators, fear of negative evaluation (Watson and Friend 1969) and customer empathy (Davis 1980), using a formative indicator approach. Both indicators demonstrate reliability with Cronbach alpha scores of .83 and .76, respectively.

Customer Attributes. Shankar and Bolton (2004) report customer factors affect pricing strategies. Moreover, price discrimination is often based on a variety of customer characteristics such as the ability to pay (Wise 1974; Susan 1996). This is particularly prevalent in services marketing (Zeithaml and Bitner 2003). In our field experiment, the manipulation consisted of

varying the description of the customer in the scenario as either a “successful young professional” or an “elderly widow” creating a dichotomous exogenous variable.³

Scenarios and role playing have been used in many decision making studies (Kim, Dirks, Cooper, and Ferrin, 2006; Greenberg and Eskew, 1993). Greenberg and Eskew (1993) offer guidelines for effective use of role playing scenarios. Two important characteristics are that 1) the role being played in the scenario must be familiar to the person, and 2) researchers allow subjects to respond in a non-restrictive manner. Our research design satisfies these criteria in that the veterinarians were making decisions about a treatment that they normally make in their practice and, the scenario allowed the veterinarian to write in any amount that they would charge for the procedure. Please see the Appendix for details.

Practice Size. This concept is analogous to Shankar’s and Bolton’s (2004) “store size” construct. Larger firms, in terms of the numbers of associates and locations, will be able to charge lower prices because of economies of scale (Susan 1996). Given the local nature of veterinary practices, however, income will be influenced both by volume of business in a particular trading area and by the limits of the owner to both manage the business and provide professional services. According to the AVMA, two measures of size are appropriate for veterinary practices: number of practice facilities and the number of full-time equivalent (FTE) associates in the practice. Both measures were included because they measure slightly different aspects of size. Given that the trading area for companion animal veterinary practices is geographically limited, it is expected that multiple locations would result in greater volume of business than a single location. On the other hand, 96 percent of our sample operated only one location. Therefore, the number of FTEs would capture differences in the size of practice for veterinarians practicing out of only one location. Indeed, the number of associates working in single location practices varies from zero to a high of 15.

³ Among respondents, 59 percent of males and 56 percent of females responded to the “elderly widow” scenario, suggesting that response bias based on client description did not occur.

Practice Size was then determined by modeling both the number of locations and the number of associates as a formative indicator.

Age of Practice. More experienced veterinarians command higher prices (Cron et al. 2000) than less experienced veterinarians. Thus, experience is included as a control variable in the study. Industry experience is particularly critical for professionals because building a social network is important to establishing the legitimacy of service (Zimmerman and Zeitz 2002) and the success of professional ventures (Silversides 2001). Industry experience was measured in this study by asking respondents how many years they had been practicing. The average number of years practicing veterinary medicine is 17.8 years in this study.

Market Potential. Both the size of markets and their associated per capita income must be taken into consideration in setting prices (Shankar and Bolton 2004; Monroe 2003). Both market potential variables are used as controls in this study with larger market potential predicted to yield higher prices for similar veterinary services. Size of community was measured by asking respondents to indicate the size of the community in which their practice is located from less than 25,000, 25,000 to 49,999, 50,000 to 250,000, to 250,000 or more people. These categories were developed by the AVMA to mirror population density associated with rural, small, medium, and large communities. These categories have been used by AVMA for more than a decade.

The second aspect of market potential is the average income in the area in which the practice is located. The core trading area for companion pet veterinary practices is generally within a two to three mile radius of the practice location. The average income level was determined within the zip code of the practice. We expect this measure to be positively related to owner income due to greater discretionary spending levels and the flexibility this offers veterinarians in setting higher prices.

Market Potential was then determined by modeling both size and income as formative indicators for the PLS analysis.

Treatment Recommended. More heroic veterinarian procedures are by definition more costly and therefore command higher prices. In the Appendix, the three choices for procedure recommended are listed in order of increasing heroism and estimated costs with the least expensive treatment regimen listed first and the most expensive last. Only 8% of the owners recommended the least expensive, while ninety-two percent recommended hospitalization with either fluid therapy (13%) or I.V. catheter, fluid therapy, and further diagnostics (79%), which is the most expensive of the treatment regimen. There was no statistical difference in the treatments recommended by male and female owners. This array of treatments and the actual case description were approved by the AVMA.

Price Quote. A commonly used method of studying executive decision-making is to provide a scenario or case and ask them to make a decision based on the information supplied (Tse et al. 1988). We used this “in-basket” approach here by asking our sample of practicing veterinarians to respond to the scenario presented in the Appendix with a recommended procedure/treatment and associated price.

Income. In this study, owner income was used to measure business success. It is the measure used by the AVMA, the veterinarian’s professional society, when publishing their annual statistics. The average income level for veterinarians in this study is \$65,372. To further validate income as the focal measure of business success, respondents were asked, “At the end of your fiscal year, what is the most important criterion by which you evaluate your practice’s financial performance?” The answers from which they could choose, with the percent choosing each response in parentheses, were owner income (61%), total dollar revenue (15%), cash flow (15%), pre-tax dollar profits (4%), return on assets (3%), and return on owner’s equity (2%). These results provide strong support for the use of owner income as a salient measure of business success for the veterinarians responding. Finally, the AVMA uses income as their primary measure of veterinarians’ success (Cron et al. 2000).

In the structural equations analysis, a direct influence of gender on income has been included as a control.

Manipulation Check

A check on the manipulation (young professional vs. elderly widow) was performed. A random sample of 150 veterinarians (not associated with the larger survey) received the elderly widow clinical scenario and 150 received the young professional scenario. A total of 57 responses were received for the young professional scenario and 41 for the elderly widow scenario. These response rates are representative of the total sample for this study. Veterinarians were asked, “To what extent did the personal characteristics of the client have any influence on your decision as to what treatment to pursue.” Responses were coded on a nine-point Likert type scale so that a high score indicated “a big influence.” ANOVA results indicated a main effect for client description. Veterinarians treating the pet of the “elderly widow” indicated that the client description had an influence on the price they charged (mean = 5.73), while those treating the pet of the “young professional” indicated that the personal characteristics of the client did not have an influence on their pricing (mean = 1.25). This difference in influence is statistically significant ($F= 156.6$, $p. < .01$; partial eta-squared = .625). Both male and female veterinarians indicated that their pricing decision was influenced by the customer characteristic of “elderly widow,” but not the “young professional.” The question remains, however, as to what price was charged as a result of this influence.

Analyses

Given the complexity of the relationships hypothesized, a combination of analysis of variance and a structural equations approach to parameter estimation is most appropriate (cf. Shankar and Bolton 2004). The structural equations model shown (SEM) in Figure 1 was tested using Partial Least Squares (PLS). This analysis approach is most appropriate for a field experimental setting such as this (Bagozzi 1977). A PLS approach more accurately estimates the parameters of the complex relationships hypothesized than the more traditional LISREL SEM

approach, which is subject to a variety of estimation errors given the nature of our data set (e.g., Ansari, Jedidi, and Jagpal 2000; Graham 1985). PLS allows for formative indicators (Fornell and Bookstein 1982; Diamantopoulous and Winklhofer 2001) and better handles both ordinal and categorical variables, and variables with non-normal distributions (Fornell 1995; Falk and Miller 1992). Finally, Naik, Hagerty, and Tsai (2000) report PLS as a more robust estimation technique than some traditional regression analyses; that is, it provided “greater predictive accuracy” in their comparison of statistical methods.

For the structural analyses four separate analyses were conducted: (1) The full model shown in Figure 1 using a pooled data set of both men and women veterinarians and allowing them to choose among treatment options; (2) controlling for treatment choice by excluding those veterinarians choosing either treatment option 1 or 2 – this reduced the sample size to $n = 408$; (3) the full model (including treatment options) using only male veterinarians; and (4) with only female veterinarians. T-tests were performed to determine the statistical significance of differences in parameter estimates across the male and female sets of data.

RESULTS

Measures and Models

Descriptive statistics and the correlation coefficients for the pooled (males and females, $n = 536$) data set are included in Table 1. The results of the analyses are presented in Table 2 and Figure 1. At the bottom of Table 2 are found the latent variable weights for the Relationship Orientation, Practice Size, and Market constructs. Fear of negative evaluation was somewhat more important in defining Relationship Orientation than was client empathy. The number of associates was consistently more important than the number of locations in defining Practice Size. Market size was consistently the more important Market Potential characteristic.

All four models tested proved to fit the data very well as measured by the RMS Cov (E,U), all less than .06 (Falk and Miller 1992). Please see Table 2.

[insert Table 2 about here]

Hypothesis Tests

Hypothesis 1 was tested first using analysis of variance. Consistent with H1, on average male veterinarians charge more than their female counterparts, \$382 and \$317, respectively, and the difference is statistically significant ($F = 12.7, p > 0.01$). Recall that owners could choose between three different treatment procedures of increasingly heroic intervention (e.g., hospitalization versus non-hospitalization), so a gender bias with respect to procedure recommendation would potentially result in a pricing differential. To test the possibility of treatment bias, treatment choices of male and female owners were examined. The chi-square (.980) was not significant. Indeed, the percent of women recommending hospitalization was almost identical to that of male owners (88% versus 87%). Therefore, gender bias in treatment does not account for the price differential observed in the study.

Both *Hypotheses 2* and *3* are confirmed and provide an explanation for the gender pricing differences proposed in Hypothesis 1. Strongly supporting H2 is the PLS parameter estimate for the Gender \rightarrow Relationship Orientation of .42, $p < 0.01$. Also supporting H2 are the differences between men and women on the individual indicators of Relationship Orientation. The scores for fear of negative evaluation and customer empathy were higher for women (88.3 and 15.6, respectively), than those for men (81.8, and 14.6); and the differences were statistically significant in both cases, $p < 0.01$. *Hypothesis 3* is supported as Relationship Orientation appears to influence Price with a PLS parameter estimate of -.25, $p < 0.01$. We also note that in the more comprehensive model, a direct relationship between gender and pricing is not supported.

Hypothesis 4 is supported by the analyses as found in Table 2, columns 3 and 4. The relationship between attributes of the client (widow versus professional) is moderated in the direction predicted. That is, the parameter for males is not statistically significant ($-.09, p = n.s.$), but for the females it is ($-.31, p < 0.01$). The difference between the two parameter estimates (based on a t-test) is statistically significant, $p < 0.01$. The price set by male veterinarians is unaffected by the characteristics of the client. Alternatively, the characteristics of the client are

considered in the pricing decisions by the female veterinarians – they tend to charge a widow less for the same treatment.

Hypothesis 5 is also supported. The data in Table 2, columns 3 and 4, illustrate that gender again moderated the relationship between practice attributes (the number of associates and locations) and price set. For males, owning larger practices has no effect on the prices set (-0.01, $p = n.s.$). Alternatively, females are affected by the size of their practices – those employing more associates charge higher prices (.20, $p < 0.01$). The difference between the parameter estimates of the males and females is statistically significant, $p < 0.01$.

Among the other antecedents of the pricing decisions for the full model and pooled data set (see Figure 1 and column 1 of Table 2), three proved important. They are market potential (.18, $p < 0.01$), customer attributes (-.17, $p < 0.01$), and treatment recommended (.38, $p < 0.01$). The overall explanatory power of the model is good – the variables included explained thirty percent of the variation in prices set by the veterinarian owners.

Hypothesis 6 is supported. Higher prices charged in the exercise are positively related to higher actual income for the veterinarians (.20, $p < 0.01$) as predicted. Two other factors (gender at -.48 and practice size at .24, both $p < 0.01$) combined with price quote to explain forty-one percent of the variation in owners' income as shown in Figure 1 and column 1 of Table 2.

Comparing the parameter estimates in columns 1 ($n = 536$) and 2 ($n = 408$, only those veterinarians selecting treatment #3) shows that the results are consistent when treatment is held constant. This finding suggests that allowing the veterinarians to choose among treatments does not confound the overall results. When we made similar comparisons across the men only and women only samples controlling for treatment, the findings (not reported for the sake of brevity) are virtually the same as those reported in columns 3 and 4 in Table 2.

Finally, comparing column 3 to 4 demonstrates that the specified model works much better for the women than the men. That is, not only are the relational hypotheses (4 and 5)

confirmed, but relatedly the variance explained is substantially greater for both price quote and income for the women.

Although not the focus in this study, the direct relationship between gender and income is modeled for completeness and the relationship between them proved to be quite strong. As can be seen in Figure 1 and column 1 of Table 2 the parameter estimate was $-.47$, $p < 0.01$ indicating that while gender influences income via price quote, there is also a strong direct influence of gender on income.

DISCUSSION

Theoretical Implications

Human beings make pricing decisions. We believe that it has proven worthwhile to study pricing decisions using a behavioral perspective. We have found that when setting prices, professionals (i.e., veterinarians) are influenced by the markets in which they operate, by the characteristics of their customers, by the procedures they specify, and by at least one of their own characteristics, that is, gender. Gender affects the income of professionals through their pricing decisions. Women veterinarians make lower incomes than their male counterparts.

Perhaps most importantly, we have gained valuable insight into the causal mechanisms for gender effects in pricing. Consistent with the predictions of a wide variety of social scientists, including luminaries such as Rubin and Brown, Tannen, Hofstede, and most recently Babcock and her colleagues, women adjust prices because they care more about their relationships with their customers and associates than do men. Our findings clearly demonstrate the causal chain of gender \rightarrow relationship orientation \rightarrow prices charged. That is, women veterinarians are more relationship-oriented and veterinarians that are more relationship-oriented tend to charge lower prices. Also in this study, women professionals charge needier clients less than better off ones and charge more when they “represent” a larger numbers of associates. Bolton, Warlop and Alba (2003) find that people’s judgments about price fairness are influenced by the cost of the service offering. This theoretical mechanism might explain why women professionals with more

associates in their practices and greater responsibilities, would price their services higher. The male professionals appear not to have considered either the attributes of their customers or the number of associates in their pricing decisions.

Babcock and Laschever (2003) conclude that women's interpersonal approach can actually create an advantage in the long run:

Although the more aggressive negotiation approach favored by many men can win good short-term results, women's focus on cooperation and relationship building can be a huge advantage (p. 165).

The problem with the "women's advantage" they describe is that most laboratory studies reflect the short-run, and this advantage is rarely captured in laboratory settings (Smith 1998). All this information is consistent with the thinking of feminist economists (cf. Ferber and Nelson 1993). For example, Matthaei (2005, p. 1) argues: "They [feminist economists] seek to construct alternative theoretical approaches and economic concepts which include women's experience and feminine values such as caring, cooperation, and provisioning." Further research is needed to understand the mechanism by which long term relationships are developed with clients, and the role pricing plays in customer loyalty. The results of this study suggest that relationship orientation is associated with more compassionate pricing, especially among women, and that the resulting financial performance suffers, in this case owner income.

One might be tempted to conclude that the lower prices charged by women owners is due to a tendency for women to price more aggressively. The finding that relationship orientation mediates the gender-pricing relationship would not be consistent with the aggressive pricing conclusion. A closer look at the client-gender relationship to pricing sheds further light on the issue of aggressive pricing. A two-way analysis of variance of price quote results in a significant interaction between client type and gender ($F = 4.094$; $p < .04$). While women charged lower prices than men regardless of the client type, there is only a \$26 difference between the prices charged the "young professional," but there is a \$99 difference in the prices charged the "elderly

widow.” Had aggressive pricing been the primary explanation for women charging lower prices, then we would not have observed this greater price differential for the elderly widow.

Managerial Implications

The women veterinarians in our sample appear to be “leaving money on the table” (at least in the short run) in their pricing decisions because of their sensitivity to negative feedback and empathy with clients. Importantly, this behavior reduces their income vis-à-vis their male counterparts. Training in bargaining skills (perhaps even including a discussion of the findings of this study) will be an important means toward mitigating this apparent gender disadvantage. Indeed, Babcock and Laschever (2003) see training in negotiations⁴ as the primary means of getting over the anxiety of asking they identify in their research. Women professionals can learn to ask for higher prices from customers and perhaps negotiate better pricing routines with vendors and employees as well.⁵ This competency will be particularly important for single-practice women veterinarians.

Given that women professionals may be sacrificing short-term prices and income maximization for long-term customer relationships, it may be said that they have more of a marketing orientation than men (Jaworski and Kohli 1993; Slater and Narver 1999). This customer focus may result in more long-term income stability and profitability for professionals, even though the annual income at the present time is negatively influenced. More study in this area examining results over a longer period of time is warranted including consideration of customer satisfaction and overall job and life satisfaction for the professionals.

Perhaps some will conclude that women should not be involved in pricing decisions. However, our findings concur with those of Bowles et al. (2005) in demonstrating that women “do ask” when in a representational role. The moderating effect of gender on the number of

⁴ Colorado State University has recently introduced a MBA/DVM program of study which may include negotiations training.

⁵ Since this study regards only price setting for services sold we cannot comment on the earlier assertion about women’s lack of practice in selling. It may be that women veterinarians are “tougher” when they are buying services, equipment, and supplies.

associates → pricing relationship is a key insight of the present study of great relevancy for managers. Similarly, Calhoun and Smith (1999) found that differences between women's and men's first offers in a negotiation were moderated when negotiators were given external reasons (such as number of associates) for being resistant to concessions.

Limitations and Future Research

We have attempted to be comprehensive in our modeling of the determinants and consequences of pricing decisions. We have not been able to measure and model all the factors that seem important *post hoc*, and these limitations suggest areas for future research. Indeed, a more systematic examination of the relationship of gender, personality traits, and pricing is warranted given our encouraging findings regarding fear of negative evaluation and empathetic concern.

Although we have measured (but not reported) satisfaction with income and we see no direct effect of gender, we still have neglected to consider overall job satisfaction, let alone life satisfaction. These broader definitions of satisfaction may be linked to the qualities of the personal relationships veterinarians enjoy with their customers. Yes, women veterinarians make less income, but how do these other factors affect their enjoyment with their work as well as other management decisions?

We would also predict that culture and ethnicity may affect pricing decisions in a similar manner as does gender. That is, Hofstede (2001) and others such as Graham, Mintu, and Rodgers (1994) report that culture affects interpersonal styles including cooperativeness and emphasis on interpersonal attraction. Tse et al. (1988) report that culture affects a variety of non-pricing marketing decisions. Personal attributes as culture or ethnicity are thus deserving of future research in the behavioral pricing arena.

We have only asked participants in the study to set prices for their professional services. However, the income/profits from their practices will also depend on other sorts of prices with vendors and employees. Women's performance in these pricing decisions may account for some

of the unexplained variance in income in this study. Certainly we believe that a participant's negotiation style and price setting approaches would be similar across these management tasks, but this remains a question to be answered in future research.

Future studies should also include a measure of the strength and nature of competition among professionals in the locale of the practice. Of course, competition has an important influence in pricing decisions and policies.

The generality of our findings can only be assumed given that we have addressed our research questions in the context of one industry. The only solution to this limitation is similar studies in other areas and industries. We would expect that our findings would apply in similar circumstances such as other fee-for-service professional services, e.g., legal services or cosmetic surgery. But, since this study is a first of its kind, only replications will provide confidence about the application of insights more broadly.

The question of gender differences in income levels was of secondary interest in this study. However, our findings raise a new question about why women make less money than men. In our model, the direct impact of gender on income is strong (-.47) despite controlling for other factors such as the mediating role of pricing decisions. Elvira and Graham (2002) and Robinson (1998) find that the gender composition of occupations affects earnings, with female-dominated jobs earning less than comparable male-dominated jobs. As the professions become proportionately more female, as student make up of professional schools (other than business) suggests, what impact will this change have on the incomes of professionals?

APPENDIX

Participating Veterinarians were presented with the following clinical situation in which the description of the client varied (i.e., the experimental manipulation) from “elderly widow” to “young professional”.

Scenario.

A young professional (elderly widow), who has been a client of yours for some time, brings in a 12 year-old female terrier to you because the pet isn't feeling well and has been vomiting. After your initial exam and in-house tests, you diagnose advanced kidney failure. You discuss your diagnosis and the prognosis associated with such a diagnosis. The client is obviously grieved by your findings and the prospect of losing the pet, a valued companion. You know from experience that the response to therapy is unpredictable and the pet may respond to therapy, may fail to respond, or may die, no matter what you attempt.

Question:

Assuming the owner elects to treat, and you could choose only one, which of the following recommendations would you be inclined to make to this client and what would be the average total quote for the option you choose? Although the option you choose may not conform exactly to your normal approach, please choose **one** treatment from the following list:

- You would recommend subcutaneous or I.V. fluids before discharging. You would either instruct the owner on how to administer SQ fluids at home or have the client return daily for additional fluids. Monitoring of blood parameters will be performed as indicated. Assuming a minimum of 3 visits, symptomatic treatment, and dietary management; a typical estimate is \$_____.
- You would recommend hospitalization with subcutaneous fluid therapy, symptomatic treatment of symptoms, no additional diagnostics and monitoring of blood parameters as indicated to determine response. Assume a minimum of 3 days. You would also discuss symptomatic treatment and dietary management with the client. A typical estimate is \$_____.
- You would recommend hospitalization with I.V. catheter placement, fluid therapy and more involved diagnostics. Close monitoring of blood parameters and critical care is indicated. A minimum of 3 days in the hospital will be required, depending on response to treatment. Long-term maintenance would be discussed with the client to include dietary management. A typical estimate is \$_____.

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Table 1
Variables, Descriptive Statistics, and Correlation Matrix (n = 536)

Variables	mean	s.d.	G	FNE	CE	CA	NL	NA	YRS	SC	ZI	TR	Q
Gender (G) 0 = male, 1 = female	.324	.469	1.0										
Relationship Orientation (RO)	--	--											
• fear of negative evaluation (FNE)	83.9	10.5	.290	1.0									
• client empathy (CE)	14.9	1.8	.287	-.052	1.0								
Customer Attributes (CA) 0 = professional, 1 = widow	.057	.049	-.048	-.008	-.012	1.0							
Practice Size (PS)	--	--											
• locations (NL)	1.05	0.24	-.036	.033	.001	.052	1.0						
• associates (NA)	2.09	1.84	.054	-.080	.038	-.007	.078	1.0					
Age of Practice (YRS)	17.8	8.3	-.407	-.145	-.128	.071	-.005	-.011	1.0				
Market Potential (MP)	--	--											
• size of community (SC)	3.14	1.08	-.106	-.149	.045	-.077	-.059	.082	.062	1.0			
• median income in zip code (ZI), thousands	\$46.6	\$15.7	.050	.010	-.024	-.033	-.019	.085	-.011	.001	1.0		
Treatment Recommended (TR) 1 = least, 3 = most heroic	2.67	0.69	.022	-.118	.148	.018	.003	.028	-.140	.033	-.049	1.0	
Price Quote (Q)	\$361	\$192	-.184	-.282	-.105	-.178	-.029	.020	.023	.203	.096	.375	1.0
Income from Practice (I), thousands	\$65.3	\$22.0	-.541	-.161	-.085	-.055	.138	.194	.275	.162	.042	.062	.318

* p < 0.01[BILL, DO YOU HAVE THIS INFO?]

Table 2
Veterinarians' Pricing Decision Making
(PLS parameter estimates)

			(1) Pooled Data, Full Model (n = 536)	(2) Pooled Data, Treatment Controlled (n = 408)	(3) Males Only (n = 362)	(4) Females Only (n = 174)
Gender	→	Treatment	.02	---	---	---
(H1) Gender	→	Price	-.08	-.06	---	---
Gender	→	Income	-.47*	-.48*	---	---
(H2) Gender	→	Relationship Orientation	.42*	.42*	---	---
(H3) Relationship Orientation	→	Price	-.25*	-.26*	-.07	-.44*(**)
Customer Attributes	→	Treatment	.02	---	.01	.03
(H4) Customer Attributes	→	Price	-.17*	-.17*	-.09	-.31*(**)
(H5) Practice Size	→	Price	-.02	-.01	-.01	.20*(**)
Practice Size	→	Income	.24*	.26*	.26*	.24*
Age of Practice	→	Price	.02	.02	.03	-.05
Age of Practice	→	Income	.08	.05	.16*	.20*
Market Potential	→	Price	.18*	.20*	.14*	.22*
Market Potential	→	Income	.06	.08	.03	.16*
Treatment	→	Price	.38*	---	.39*	.33*
(H6) Price	→	Income	.20*	.20*	.23*	.21*
		Price-R²	.30*	.17*	.19*	.59*
		Income-R²	.41*	.42*	.15*	.23*
		<i>Model - RMS Cov (E,U)</i>	<i>.031</i>	<i>.027</i>	<i>.025</i>	<i>.051</i>
		LV Weights				
Relationship Orientation		FNE	.82	.85	.69	.69
		Empathy	.62	.64	-.59	.72
Practice Size		# Locations	.54	.44	.45	.19
		# Associates	.80	.86	.85	.98
Market Potential		Size	.93	.79	.82	.97
		Income	.37	.60	.60	.21

*parameter estimate statistically significant, $p < 0.01$

(**) difference between parameter estimates across male only and female only samples statistically significant, $p < 0.01$

Figure 1
Veterinarians' Pricing Decision Making
(PLS Parameter Estimates)

