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Needling Around: Discovering the Factors Affecting Physician Opinion on Acupuncture

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Needling Around:

**Discovering the Factors Affecting Physician
Opinion on Acupuncture**

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Abstract

This paper investigates the effects of the independent variables, age, exposure to acupuncture, knowledge of acupuncture, level of religiosity, physician referrals for acupuncture and physicians type of practice on the dependent variable, opinion of acupuncture. Using bivariate cross-tabulations, gamma and linear regression analysis, exposure, knowledge and physician referrals were found to have a significant relationship with opinion of acupuncture. The self-administered questionnaire was mailed to all physicians and surgeons of the Bloomington/ Normal IL community who were listed in the April 1998 GTE phonebook. Respondent's ages ranged from 29 to 95 years old, the mean equaling 46.4 years old. Four types of practices were identified; 24.5% of respondents were surgeons, 7.5% were chiropractors, 34% were generalists such as internal medicine or general practitioners and 34% were specialists such as podiatrists or cardiologists. Seventy-eight percent of physicians had been exposed to acupuncture and 40% reported having above average to high knowledge of acupuncture, while 30.9% and 29.1% reported having average and low to below average knowledge, respectively. This study indicates that the majority of respondents (66.7%) had a high opinion of acupuncture. This study is important because the more that is known about physician's opinions on acupuncture and the factors that affect it, the easier it will be to help move acupuncture fully into mainstream medicine.

INTRODUCTION

This research addresses the range of opinions physicians have toward the alternative therapy of acupuncture and the relationship of age, exposure to acupuncture, the level of religiosity, knowledge of acupuncture, physician referrals for patients to use acupuncture and type of practice to their opinion on the subject. Traditional acupuncture is based on the belief in Chi, which is the life force that flows through fourteen channels or meridians in the body (Appendix A). According to Paul Wolpe, (1985:415) when Chi is blocked, it alters the balance of the mind, body and spirit. In order to release the blockage, acupuncture practitioners believe that the meridians need to be stimulated, usually with needles, but also with pressure and herbal medicines. Acupuncture is the insertion of fine needles into certain points of the body that redirects balance and energy within the body. Acupuncture has been practiced in China for more than five thousand years as a therapeutic and holistic medicine; this expanse of time has allowed the Chinese to distinguish over 300 acupuncture points on the body, covering all areas of the body, from the top of the head to the bottom of the feet (Rick Weiss, 1995:71).

While acupuncture has been practiced for thousands of years in China, it was not until 1971 that it was abruptly introduced into the United States (Wolpe, 1985:410). First, the “bamboo curtain” was lifted and the political, economical and social relations between China and the U.S. were opened up, resulting in a transfer of knowledge and technology between the East and the West. Second, interest was sparked when a prominent *New York Times* columnist visiting China underwent acupuncture treatment for post-surgical pain, and wrote of his experience upon his return to the U.S. (Wolpe,

1985:411). The public and medical doctors alike were eager to learn more about this “discovery.”

Acupuncture quickly grew in popularity across the country. The federal government encouraged research, the Internal Revenue Service qualified treatment as a medical expense, the Food and Drug Administration established regulations for acupuncture needles, and numerous doctors visited China to learn about the ancient practice (Wolpe, 1985). However, this practice of acupuncture was strikingly different from the ideas and structural foundations of western medicine, an issue that soon became a problem.

Within a year, the enthusiasm for the Eastern medicine dissipated rapidly. A considerable amount of research indicates that when people in positions of power feel threatened by the presence, in this case, of new medical knowledge, they use that knowledge to discredit the new paradigm (Foucault, 1994; Conrad and Schneider, 1992; Kaufert and O’Neil, 1993 and Lindenbaum and Lock, 1993). This can be seen in what happened to acupuncture. Physicians, sensing a threat to established medicine, battled to keep acupuncture under the control of licensed MDs (Colgate, 1995:27).

Doctors began to call acupuncture “quackery” or a hoax, and there was an air of hostility toward the practice of acupuncture as medical treatment in the United States in the following years. For example, in the 1975 volume of *American Journal of Chinese Medicine* (AJCM), 71% (22/33) of the articles were written by American or Canadian authors. But American physicians lashed back against incorporating acupuncture into mainstream medicine and in 1980, that percentage had dropped to 27% (9/33). A dramatic decrease can be seen again in the 1984 and 1985 volumes combined, where only

8% (2/24) of the articles were authored by Americans or Canadians (Wolpe, 1985:420).

It can be seen that Americans were not interested in providing knowledge about acupuncture. They were using their power to control and limit the knowledge and expansion of acupuncture into the normal paradigm of science.

Despite the developing hostility of the 1970's, acupuncture has continued to grow in usage, though at a much slower rate than its initial momentum would have suggested. Today, approximately 3000 physicians practice acupuncture (David Diehl et al., 1997) and in 1994 alone, over 9 million people sought out acupuncture as a treatment (Weiss, 1994:71). This paper intends to evaluate current attitudes of physicians and chiropractors toward acupuncture in the Bloomington/ Normal, (population, 100,000), medical community. Proponents have continued to struggle in establishing acupuncture as a viable and accepted treatment for ailments. With only one third of the 9000 practicing acupuncturists being MDs (Colgate, 1995:27), acupuncture can hardly be said to be completely accepted into mainstream medicine.

With the trouble of conducting double-blind controlled studies, and the lack of hard data about the effectiveness of acupuncture, one wonders if a general hostile attitude toward acupuncture still exists in today's medical community. What are some of the variables that affect their attitude? This study will discuss physicians' opinion on acupuncture and investigate the effect of age, exposure to acupuncture, level of religiosity, doctor referrals, type of practice and perceived knowledge of acupuncture on a doctor's opinion of acupuncture.

By discovering what factors affect attitudes of physicians and those physicians' characteristics, steps can be taken to target those physicians who would most likely hold a

low opinion of the treatment and work to educate them. It is imperative to analyze the attitudes of doctors because their own beliefs can sway patients and the general public's feelings on the practice of acupuncture (Kuhn, 1994). If this study reveals a significant bias toward or against acupuncture, then it could lead to further studies or implantation of a program to educate the medical community about the practice of acupuncture.

LITERATURE REVIEW

Currently, interest in alternative medicine is on the rise. More and more people are looking toward alternative medicine to treat ailments not successfully being treated by mainstream therapies. In fact, 425 million people used some type of alternative medicine in 1990 (Diehl, et al., 1997:119). As a result of this increasing interest, numerous studies¹ have been conducted on physicians' attitudes on complementary/ alternative medicine.² This review will first discuss the general attitude of physicians toward acupuncture as observed in articles not associated with research found in academic journals. Then it will address results from surveys concerning the variables addressed in this particular study, such as physician referrals, belief in the efficacy of acupuncture and the knowledge physicians have about acupuncture.

It should be noted that the use of the word complementary/alternative medicine is taken directly from the surveys involved. The word itself is an insight into the acceptance and opinion of mainstream medicine toward therapies such as acupuncture or

¹ It is recognized that respondents from different areas might have different viewpoints toward acupuncture. However, Astin et al., (1998) and Schachter et al., (1993) report that there was no significant difference in belief of effectiveness according to a physician's country of origin.

² Despite its popularity in the public sector, only one study was found solely analyzing acupuncture. Therefore, the studies reviewed here were generalized, but all specifically mention acupuncture as one of the alternative medicines surveyed and analyzed.

homeopathy. Alternative was the primary adjective used for these therapies when they first became popular. But this portrayed the idea that it was either one or the other, with no way to combine alternative or conventional medicine. In an effort to further combine traditional and alternative medicine, the phrase, complementary medicine, became popular. Currently, there is a move to use the word integrated, which conveys the way acupuncture and other therapies can be used in conjunction with traditional medicine, not just as a replacement.

Most articles reviewed demonstrate a positive attitude toward the effectiveness of acupuncture. Marc Micozzi, MD, recognizes the hostility acupuncture has faced when he says “acupuncture has been driven into an underground, marginal status in the United States” but that modern medicine must develop tools to integrate complementary medicine with mainstream medical care (Micozzi, 1998:66). Rick Weiss writes that acupuncture is an important therapy that could be especially useful when it comes to pain (Weiss, 1995:71). A study done by Neils Lynoe and Tomas Svensson (1992), which investigated physician’s attitudes toward alternative medicine, found 43% of respondents do not profess any vested interest in alternative medicine still had a positive response toward acupuncture (1992:56). Lynoe and Svennson (1992:59) state that this is an indication that specific treatments of acupuncture are on the verge of being accepted into academic medicine.

There are several other indicators that the power structures within mainstream medicine are beginning to accept acupuncture as a legitimate treatment. One such indication is a consensus statement, a statement made by a nonadvocate, non-federal panel of experts, issued by the National Institutes of Health (NIH) in the fall of 1997

(Morey, 1998:2545). The consensus states that clinical experience suggests that the majority of patients have a beneficial response to acupuncture. *The Journal of American Medical Association* reports that NIH's report reviewed hundreds of studies and concluded that it was indeed effective for several disorders (Marwick, 1997:1725). Another current indication of an improved attitude toward acupuncture is in the Food and Drug Administration's (FDA) reclassification of acupuncture needles. Since 1972, acupuncture needles have been in class III, which is a category, labeled for investigational use. In 1996, the FDA reclassified the needles into class II, meaning they can be used by all licensed, registered or certified acupuncture practitioners, even if they are not conducting an experiment (FDA Consumer, 1996:4).

The large number of research articles devoted to alternative therapies is another indicator of the increasing popularity of these treatments. In a search engine generated by First Search, in SocSciAbs engine, the key word "acupuncture" resulted in 67 different articles. This section will provide a literature review of several studies that investigate the variables of physician referrals for acupuncture, the belief in the efficacy of acupuncture and physician's perceived knowledge of the treatment, all variables included in this study.

Physicians referring patients to acupuncture

I considered physician referrals to be a good indicator of a physician's attitude toward acupuncture because it is believed that doctors would not refer patients to a therapy they do not believe is effective themselves. Table 1 (Appendix B) summarizes the results found in various studies on complementary medicine. The percentages of

respondents who referred patients to acupuncture reported in various studies ranged from 22.9% to 79%, with a mean of 51.15%.

In comparison to other alternative medical treatments, acupuncture was in the middle range with respect to referral rates by doctors; it was above rates for treatments such as faith healing and herbal medicine and it was below chiropractic manipulation and hypnosis. In another study that examined physician referrals, Liora Schachter et al., (1993) report that 79% of the physicians said they would refer patients to practitioners of nonconventional³ therapies. Astin et al., (1998) did a literature review of surveys on complementary/alternative medicine and the referral rating for acupuncture ranged from a low of 8% to a high of 71% with a mean of 43% from 11 surveys. In a study done by Berman et al., (1995), 22.9% of physicians questioned on referral patterns responded that they would give referrals for physicians practicing acupuncture while 26.8% would give a referral to a nonphysician, an acupuncture practitioner without a medical degree.

Physicians' Belief in Efficacy of Acupuncture

This variable is closely related to the dependent variable of physician's opinions on acupuncture and is being discussed for that reason. Several surveys question physicians directly on their belief in the efficacy of acupuncture. Table 2 (Appendix B) shows the results of this survey, which range from 51% to a high of 78%, with a mean of 61.18%. This high mean indicates that most physicians believe acupuncture is useful in some way. Berman et al., (1995), reported that 55.9% view it as a legitimate medical practice. The percentage of physicians answering that acupuncture is useful was 59% while 8% thought acupuncture is very useful in a Wharton and Lewith (1986) study. In a

Diehl et al., (1997 study on acupuncture use by American physicians, 15 conditions were listed and doctors were asked to rate their efficacy. Doctors feelings on the ineffectiveness of acupuncture for certain conditions had the lowest percentage while those that felt acupuncture was very effective for the 15 conditions listed had the highest percentage of positive responses. In another study, Schachter et al., (1993) relate that 54% of respondents believe nonconventional therapies might be useful. Similarly, in a literature review of 19 surveys on complementary/alternative medicine, Astin et al., (1998), reports acupuncture efficacy belief range from 18% to 88% with a mean of 51% for 11 different studies. Finally, Edzard Ernst et al., (1995) literature search showed physicians answered positively to the question of efficacy in a range from 20-76%.

When analyzing their results, it was observed that the perceived usefulness of complementary/ alternative medicine is much higher than actual empirical evidence of the efficacy of acupuncture found in random trials (Berman et al., (1995). One implication of these results is that physicians of traditional medicine are beginning to accept acupuncture into the paradigm of normal science. It seems as if physicians are realizing that the effectiveness of acupuncture cannot be adequately assessed by the traditional standards of conventional medicine, or are willing to try acupuncture as an alternative therapy even if it is not scientifically proven. On the other hand, it is disturbing that medical practitioners are placing more faith on a treatment than studies show it deserves.

³ Use of this word was taken directly from the study.

Perceived Knowledge of Acupuncture

Along with doctors' beliefs in acupuncture and their referral of patients to receive treatment, knowledge of acupuncture itself is imperative for a physician to form an educated opinion on the treatment. Surprisingly, knowledge of acupuncture was not addressed a great deal in other surveys. Only three studies address physician knowledge of acupuncture (see Table 3, Appendix B). Much like this study, Wharton and Lewith (1986) rank the level of physician knowledge of acupuncture, with 4% reporting very good/good knowledge, 18% having moderate knowledge, and 39% in the final two categories, poor and very poor. Berman et al., (1998) report only if a doctor possesses knowledge of acupuncture or not. The range of percentages is 11.0% to 62.7% with a mean of 31.9%. Such a wide range could be a result of the region where the studies were conducted.

It is interesting that the mean for physician referrals is almost twenty percentage points higher than the mean for knowledge of physicians. Are doctors being too critical of their knowledge, or are they referring patients without having proper knowledge of acupuncture treatment? This issue will be further addressed in the referral part of the discussion section.

No studies reviewed discussed the effects of the levels of religiosity, and only a few surveys addressed age and type of practice.

Age and Type of Practice

The literature review was inconclusive for age, because there were surveys that reported statistical significance and other studies reported no influence of age on the belief in alternative therapies. Diehl et al., (1997:124) report that physicians who use

acupuncture are more likely to be in the 35-55 age group, while Ernst et al., (1995) found that young physicians judge complementary medicine in general more favorably than older doctors (1995:2405). However, Schachter et al., (1993), and Goldszmidt et al., (1995), report that age did not have a statistically significant effect on their answers toward nonconventional therapies. Contrary to the results for the variable of age, all articles that mention specialty report that nonspecialists or, more specifically, general practitioners, are more likely to approve of complementary medical treatments.

Although the numerous articles reviewed mostly contain a positive view on acupuncture treatments, I noticed that the authors were only cautiously supportive of acupuncture and even mentioned the negative aspects of acupuncture. Some cautions included the lack of clinical proof that acupuncture is effective and unregulated certification and practicing guidelines. In addition, several articles mentioned that acupuncture is just a placebo effect and not an effective method of treatment (Wolpe et al., (1985), Ernst et al., (1995), and Marwick, (1997)). But only one article was found in the literature search that was directly and completely negative toward acupuncture. An article in the journal *Lancet* reports a study on the adverse effects caused by acupuncture where 12% of doctors and 31% of acupuncturists surveyed reported harm as a result of acupuncture. The article concludes that the “adverse effects of acupuncture are more than occasional” (Lancet, 1995:1576) and are underestimated by researchers.

Overall, the numerous surveys reviewed revealed the mainstream medical community to be increasingly accepting of the use of acupuncture to treat patients. But the wide ranges reported for physician referrals, belief in efficacy of acupuncture and knowledge of acupuncture by many of the surveys indicate that not all physicians hold

acupuncture in such high regard. The remainder of this paper will investigate the opinion of physicians toward acupuncture and the variables that affect their opinions.

METHODOLOGY

Survey Design:

The study population consisted of all doctors and chiropractors listed under "Physicians and Surgeons" in the April 1998 GTE phonebook, pages 281-297. This was the most recent phonebook provided by GTE at the time of the study. Other lists were considered, such as the listing of physicians distributed by the McLean County Health Department, physicians affiliated with the BroMenn Regional Medical Health Center or physicians affiliated with OSF St. Joseph's. The final decision to use the GTE phonebook listing came because this was thought to be the most comprehensive list because it was not limited in content due to affiliation. The sampling frame was limited to physicians and chiropractors in the Bloomington/Normal community.

Data were collected through a self-administered questionnaire (Appendix C) consisting of 36 questions, which was mailed directly to the doctor's offices. If there was more than one doctor in an office, a separate survey was sent to each physician at the same address. Of the initial 181 surveys mailed, 3 (1.66%) were returned with their forwarding addresses expired, 1 (.55%) was returned with no entries while 57 (32%) of the eligible surveys were returned completed. To ensure complete anonymity, respondents were asked to remove the address label containing their name before returning the survey. Due to the lack of accountability for who had returned the survey and the lack of funding allotted for this study, a second follow-up mailing was not carried out.

Respondents ranged from 29 to 95 years old with a mean of 46.4 years of age. A majority, 66.7%, reported having a high opinion of acupuncture, while 21.1% had a moderate opinion and only 12.3% had a low opinion of the treatment. Of the four types of practices identified, 24.5% were surgeons, 34% were generalists, 7.5% were chiropractors and 34% were specialists. There were 22 respondents (40%) who reported an above average to high level of knowledge about acupuncture, 17, (30.9%) had an average level of knowledge and 16 (29.1%) reported having only a low level of knowledge. The percentage of respondents exposed to acupuncture during their lifetime was 78.2%. The level of religiosity reported 29.1% reporting low level of religiosity, 34.5% with an average level and 36.4% having a high level of religiosity.

Measurement:⁴

This section will contain a description of the dependent variable and the six independent variables used to study the level of acceptance of acupuncture in the respondent. It will include the questions used in the actual questionnaire, explain the indexes that were constructed, and conduct an explanation of why each question and index was used.

The dependent variable, respondent's opinion of acupuncture, was measured using two questions which were combined in a multiplicative index. Each question used a four point response to the following questions:

“Do you believe that acupuncture is a viable treatment for chronic pain

1. Yes
2. Maybe
3. No
4. I don't know

⁴ I would like to thank Professor Greg Shaw for assistance with statistical manipulation of my data.

- 2) "Do you believe that acupuncture is a viable anesthetic?"
 1. Yes
 2. Maybe
 3. No
 4. I don't know.

The answers to both questions were recoded so that the response of "I don't know" equalled one, "no" was equal to two, "maybe" equalled three, and "yes" was equal to four. Then, the values were multiplied together to form the index. This gave an index of 8 categories, but because of the low number of respondents in the study, the categories were collapsed to ensure there would be no empty cells in the bivariate tables. Three new collapsed categories, low, moderate and high opinion on acupuncture were used in the bivariate crosstabulations. This index is a good indication of the acceptance of acupuncture because it asks the respondent directly if they support the use of acupuncture in anesthetic and chronic pain, two issues in which the use of acupuncture is currently being debated. By asking these two questions, this survey will analyze to what level Western medicine has accepted these traditional Chinese treatments into the normal paradigm of science.

Six independent variables are used in this study. They are: age, exposure to acupuncture, knowledge of acupuncture, level of religiosity, type of practice, and acupuncture referrals given to patients. Ages were grouped into categories; born in 1920-1930, 1931-1940, 1941-1950, 1951-1960, 1961-1970. The question concerning exposure asked:

“When were you first introduced to acupuncture?”

1. Last year
2. 2-10 years ago
3. 11-0 years ago
4. 21-30 years ago
5. 31+ years ago
6. Never

The categories were collapsed to "Been exposed during lifetime" and "Have never been exposed". The original categories were dependent on age; but by collapsing categories, the dependency of the answer on age was disposed of and the question remained useful.

The question pertaining to knowledge of acupuncture asked:

“Compared to the average person, rate your knowledge of acupuncture as used in the United States?”

1. Highest 10%
2. Very high
3. Above average
4. Average
5. Below average
6. Very low
7. Lowest 10%?

Categories were collapsed into three categories, "High-Above average," "Average," "Below average-Low," again, to ensure the lowest amount of empty cells in bivariate analysis.

A physician's perceived knowledge of acupuncture is important to analyze because usually, the more one knows about a subject, the easier it is to form an educated opinion on it. Does the knowledge of acupuncture directly correlate with the opinion on acupuncture? Society feels that it is important that doctors have a base of knowledge before they form an opinion on the treatment. If this study reveals that doctors have a correlation between knowledge and opinion of acupuncture, proponents should work to

educate all physicians about acupuncture. This question is an indication of how the respondent perceives their own knowledge on the subject. It is reasonable to assume that this was the best way to test a physician's knowledge of acupuncture.

Two questions were also used to construct an index for the independent variable of religiosity, with the answers measured on a Likert, five point scale. The first question asked:

“Compared to an average person, rate your level of religiosity?”

1. Highest 10%
2. High
3. Average
4. Low
5. Lowest 10%

This question is a good indication of the level of religiosity because its answers reflects how the respondent perceives himself. The second question used in the index asks;

“How many times do you attend religious activities a week?”

1. 1
2. 2
3. 3
4. 4
5. 5+

This question shows the actual activity of the respondent. It is a good indicator toward the actual commitment a person has towards his/her particular religion. The responses for the two questions were multiplied together to result in an index measuring the level of religiosity of the physician. Along with the two indexed questions, the survey asked the religious denomination of each respondent, which was grouped into Christian and non-Christian categories. It was hypothesized that a Christian with a high level of religiosity would have the lowest opinion of acupuncture. The results for these questions were not

significant, but call for more studies to be conducted. It is possible that the very small number of non-Christians,⁵ may have skewed that data. A study with more diversity in regards to religion might display different results.

The next independent variable used is the type of medical specialty the physician practices. The question asked the physician's medical specialty in an open-ended question. The responses were coded as the data were entered into the database, which yielded 20 different specialties. The categories were collapsed to four categories, "Surgeons," "Generalists," "Specialists," and "Chiropractors," which allowed for better analysis of the data. Specialists included practices such as Medical Oncology, Urology, Cardiology and Pulmonary Medicine, whereas generalists included Family Practice, Pediatrics and Internal Medicine. It is hypothesized that the more specialized a physician is, the lower their opinion of acupuncture. It is hypothesized that general practitioners are more open to alternative treatments because they are exposed to many different ailments, which allows them to experience and gain more knowledge than the narrow and concentrated knowledge of specialists. In addition, general practitioners are more patient-oriented and deal on a more holistic level than many specialists do, which could also contribute to their openness toward acupuncture.

The final independent variable deals with the physician's referrals of patients for acupuncture. The question asked:

"Have you ever suggested acupuncture as an alternative treatment to your patients?"

1. Yes
2. No

⁵ Only 7.7% of respondents were Jewish, and the rest were some denomination of Christianity.

By asking this question, it is intended to find if the opinion of acupuncture held by the respondent is related to the number of times a doctor refers patients to the treatment of acupuncture. It is theorized that physicians who have high opinions might be more willing to refer patients to receive acupuncture treatment.

RESULTS AND DISCUSSION

Several tests were performed to determine the significance and relationships between variables. Tests performed were bivariate cross-tabulations, gamma and linear regression analysis on all variables. Each test will be discussed in this section in the order they are listed. Although most variables are at the nominal level, various tests were performed because the independent variables represent different levels of measurement. A multiple regression analysis test was considered, but due to the very low number of respondents, the decision was made not to use this statistical test.

Using bivariate analysis, each independent variable was cross-tabulated with the dependent variable, which was the physician's opinion on acupuncture. Three variables, exposure to acupuncture, knowledge of acupuncture and doctor referrals for acupuncture were found to be statistically significant (see Tables 5-7), and will be discussed separately below. The remaining three independent variables, age, type of practice and the physician's level of religiosity were not statistically significant.⁶

Bivariate tables and cross tabulations use the statistic of chi square, which can be used to test a hypothesis when two variables are independent of each other. Two variables are independent of each other if the expected frequency of the case is equal to

Tables 8-10 display non-significant data and are located in Appendix B.

the actual, observed frequency of cases. For example, 78.2% of the respondents in this study have been exposed to acupuncture during their lifetime and 66.7% hold a high opinion of acupuncture. If you multiply .782 by .667, the product is .501. This number, multiplied by the total number of respondents who have been exposed, (55) equals 27. This number equals the expected frequency of respondents in the cell for physicians who have been exposed to acupuncture and have a high opinion of the treatment. In actuality however, there are 33 observed cases (76.7%) for that particular cell. If exposure to acupuncture and opinion on acupuncture were independent, then the expected would equal the observed frequencies; but, in fact, there are six more cases than expected. The p value shows the probability that one would get the same result in a random sample. If the two variables were independent, the probability that a random sample would result in the same chi square value (5.829) is at least 0.054. Since this probability is small, it is unlikely that this value would be naturally occurring and therefore, we can conclude that the hypothesis that the variables are independent is rejected.

Exposure to Acupuncture

Table 5 shows the distribution of exposure of acupuncture cross-tabulated with physicians' opinion on acupuncture. The chi square value for exposure to acupuncture is 5.829 and was significant at the ten- percent level. The p value was 0.054, which is well below the required alpha value of 0.10 and is quite close to being significant at the 5% level. There were only 12 out of 55 (22%) physicians who responded that they had never been exposed to acupuncture during their life. Seventy-six percent of those who had been exposed had a high opinion of acupuncture. This compares to the 41.7% who had a high opinion of acupuncture without being exposed to the treatment. The majority of

physicians, (78.2%), have been exposed to acupuncture during their lifetime, and results indicate a positive relationship between exposure and opinion of acupuncture.

Physicians were questioned as to where they were first exposed to acupuncture and 25.5% (14) were exposed before medical school, 23.6% (11) in medical school and 20.0% (11) had never been exposed to acupuncture. The remaining 29.1% had been exposed to acupuncture at chiropractor school, outside the U.S., at work or in a workshop. The results give additional support to the argument that acupuncture is becoming more accepted into mainstream, Western medicine.

This survey shows that almost a quarter of physicians had been exposed to acupuncture in medical school, the very site where conventional medicine and treatments.⁷ Medical school is where physicians are taught the rigors of scientific thought and where they learn to believe in traditional medicine. It is interesting to note that 76.9% (10) physicians who were exposed to acupuncture in medical school had a high opinion of the treatment, and 85.7% (12) respondents had a high opinion of acupuncture who were exposed before medical school. It is possible that the progressiveness of the medical school, indicated by their inclusion of acupuncture into their curriculum, might have affected physicians attitudes toward acupuncture. With 7.3% of physicians reporting exposure in a lecture or workshop along with another 7.3% responding that they had been exposed to acupuncture at their place of work, results show acupuncture is becoming more popular and is on its way to entering the normal paradigm of medicine. It

⁷ Currently, 75 of the 125 medical schools in the U.S. offer elective courses in alternative medicine or include these topics in a required curriculum (Wetzel, 1998:784).

can be seen from these results that exposure to acupuncture, no matter where it is, is significant to the physician's opinion of acupuncture.

If doctors are aware of acupuncture and what it entails, then it seems that she holds it in a higher regard than those physicians without any exposure do. Possibly they become more open to the idea of it working, they learn the benefits of the treatment or are frustrated with the results of conventional medicine and are willing to try something new. One other possibility for the significant results is that physicians surveyed had a high opinion of acupuncture and therefore took initiative to expose themselves to the treatment. A final possibility addresses the issues of power and the construct of knowledge in medicine. It is thought that human nature is to fear what we do not know, or what we do not control. Kuhn addresses normal science and the hostility toward new ideas, or paradigms, introduced in his book, *The Structure of Scientific Revolutions* (1996). When a new paradigm, like the idea that the world is round instead of flat, is introduced to the scientific community, it is at first rejected and then faces great hostility in its struggle to be accepted. Usually it takes many years for a new paradigm to be completely accepted by scientists, but when it is, the old paradigm is discarded and the new one becomes part of normal science (Kuhn, 1996). The acceptance of acupuncture into the paradigm of established medicine has been no different. Doctors feel threatened by the alternative therapy because it does not fit the normal paradigm of conventional medicine and is difficult to understand (Wolpe, 1985:420). Perhaps a doctor practicing mainstream medicine has never been exposed to acupuncture and as a result of their fear or misunderstanding, they hold a low opinion about acupuncture. This survey

demonstrates that knowledge and high opinion of acupuncture are statistically significant, therefore, this hypothesis could be true.

Physician Referral to Patients for Acupuncture Treatment

The independent variable, referral by doctors, had a chi square value of 7.914 and a p value of 0.019, which is statistically significant at the five percent level (Table 7, Appendix B). In each category, a majority of the responding physicians reported having a high opinion of acupuncture. However, 85.2% of those doctors who had referred a patient to an acupuncturist had a high opinion of the treatment, while only 50% did who had not given a referral.

If a doctor has a high opinion about acupuncture, it is reasonable to assume that she would be comfortable suggesting that a patient might turn to acupuncture for relief from a problem. This study shows that almost half the physicians questioned have given a referral for acupuncture, which is an indication that acupuncture is being accepted into the established paradigm of medicine. However, it should be noted that the availability of acupuncturists in the area could account for some of the varying range of responses from the literature review (Table 2 Appendix B).

In research done by Paul Wolpe, (1985), with regards to this issue, he found that physicians in the mid 1970's and 1980's worked to establish a social authority over acupuncture. To establish control in the social area of the world, they first delegitimized the lay practitioners of acupuncture. This tactic allowed for the later takeover of acupuncture treatment once research began to show the efficacy of acupuncture (Wolpe, 1995: 413). Now that the social authority, control and dominance is established, doctors might feel more comfortable referring patients to acupuncture because they do not sense a

threat to their hold on medical treatments from lay treatments. Finally, mainstream medicine has set guidelines and rules for acupuncture similar to other divisions of medicine. Now that acupuncture has these established guidelines, it is more like traditional medicine. This security might lead to a higher opinion about acupuncture and allow doctors to feel more comfortable and secure suggesting acupuncture to a patient.

Table 7 (Appendix B) shows that 7.3% of physicians who had low opinions of acupuncture had referred patients to receive acupuncture, and the same percentage, 7.3% of physicians, had a moderate opinion of acupuncture and had referred patients for acupuncture. Why do physicians who hold a low to moderate opinion refer their patients for an acupuncture treatment? It is possible that a physician personally does not have a high opinion of acupuncture, but if a patient believes in the effectiveness of acupuncture and asks her doctor for a referral, the physician decides to test if the treatment can be useful for this particular case. In this scenario, the physician is being very open-minded and willing to see if acupuncture works even though they have established opinions on it. In other words, the physician is testing the new paradigm and is willing to see if it belongs in the normal paradigm of medicine. However, this is only speculation and additional studies should be conducted questioning why a physician would refer a patient to a treatment they do not believe is effective.

Knowledge of Acupuncture

The chi square value for knowledge of acupuncture was 11.173, and the p value was equal to 0.025, which demonstrates statistical significance at the five- percent level (Table 6). The distribution of reported knowledge is fairly even with 22 physicians reporting high to above average knowledge, 17 reporting average knowledge and 16

reporting below average knowledge of acupuncture. The majority of physicians in the study reported a high opinion of acupuncture in all three categories of knowledge.

The relationship between physician's knowledge of acupuncture and their opinion of it offers many hypotheses. The role language plays on our attitudes toward a subject must not be ignored. Acupuncture is a therapy that uses language that is unfamiliar to the Western world, such as chi (life force) and meridians, (channels in the body the chi flows through). If a physician does not have this knowledge of language, and does not understand the procedure or the theory behind acupuncture, it is more likely that she will have a low opinion concerning its practice. This point is supported by the results of this study, which shows that no doctor with a high level of knowledge has a low opinion of acupuncture.

Several other agents might contribute to the significance of this relationship. First, doctors who are interested in acupuncture will seek out knowledge about the subject. Their high level of knowledge is a result, not a cause, of their high opinion of acupuncture. Secondly, the numerous workshops, articles, classes and along with the acceptance of acupuncture previously mentioned by the FDA and the NIH all suggest that acupuncture has become more mainstream. This increase in acceptance has raised physicians' awareness and knowledge of acupuncture therefore allowing them to form their own opinions. Since most of the literature produced about the treatment is positive, it can be said that physicians are developing a high opinion of acupuncture due to the positive information they are acquiring on the subject.

The fact that a high level of knowledge relates to a high opinion of acupuncture is very important when considering the impact doctors have on the general public. Doctors

are respected in the world because they possess the power to save and protect lives, and concurrently, the general public respects their knowledge and opinions. Not only does the general public believe that doctors are almost always right, the doctors themselves believe this too (Kuhn, 1996). This respect of authority puts the medical community in position to control public knowledge and attitude toward acupuncture. Since medicine is such an autonomous profession, it is important to educate physicians on acupuncture because education might allow doctors to form positive opinions on it.

Type of Practice

Although there was not a significant finding for type of practice, generalists had the highest percentage of physicians who held a high opinion of acupuncture even above the chiropractors, who are considered practitioners of alternative treatment by most mainstream doctors. An equal number of specialists and generalists responded. There were 77.8% of generalists who held a high opinion of acupuncture while 61.1% of specialists did. These non-significant results could be due to the fact that only physicians who have a vested interest in acupuncture took the time to complete the survey, regardless of their type of practice. Although acupuncture is increasingly being used in anesthetics, no anesthesiologists responded to the questionnaire. Maybe these physicians feel threatened because they do not have the knowledge or the power to control the usage of acupuncture. They do not want acupuncture to be accepted into the normal paradigm because it is competition for their job and purpose in medicine.

Gamma Analysis

An analysis for ordinal variables, gamma, was run for all appropriate variables.

Gamma tests for ordinal variables can determine the direction of the relationship, whereas

the crosstabulations can only indicate if a relationship exists. The analysis of gamma tests if a relationship exists for pairs of variables, and if one does exist, then it indicates how the relative position of an independent variable should effect its position of a dependent variable (Dometrius, 1992: 309). If being higher on the first variable leads to being higher on the second, then the pairs are concordant and the gamma value will be a large positive number. If being higher on the first leads to being lower on the second, the relationship is discordant and the value is a large negative number. The gamma value for knowledge was concordant at +0.556.

The gamma statistic represents the reduction in the error in guessing (Dometrius, 1992: 310). For example, when physician A has a higher level of knowledge about acupuncture than physician B does, it can be guessed that physician A will also have a higher opinion of acupuncture than physician B and the error of guessing is reduced by 55.6%. One variable, knowledge of acupuncture, was significant. The gamma value for knowledge is .556 or 55.6%, and is highly significant with a p value of 0.003. The more knowledge a physician has, the higher the opinion they have. This demonstrates that it is very important to educate physicians about acupuncture, its benefits and its procedures.

Linear Regression Analysis

Linear regression analysis was conducted on all independent variables to confirm the relationships found in the bivariate cross-tabulations and the results were significant for knowledge. The adjusted R^2 value was equal to 0.124, the F value was 8.609 and the p value was highly significant at 0.005. This value is the extent to which the regression explains the dependent variable. Therefore, the adjusted R^2 explains 12.4% of the variance in the physician's opinion of acupuncture. Although this is a low amount, the

regression still confirms the significance of knowledge in the cross-tabulation tables and is highly significant. It indicates that as the knowledge of acupuncture goes up, so does the opinion of acupuncture. This is encouraging to proponents of acupuncture because the significance indicates that the more educated the mainstream medical community becomes about acupuncture, the higher opinion they will have toward it.

Limitations

Several limitations for this study existed. The sample size was very small, thereby making testing for significance more difficult. This could be a result of the nature of the respondent's profession, as previously mentioned. A second reminder mailing might have increased the number of returned surveys, but as previously mentioned, there were not enough funds or accountability to carry this out. Respondents indicated another limitation when they wrote that the survey was too long and detailed. In addition, I feel that the questionnaire asked too many irrelevant and ineffective questions and should have been reduced to 15-20 questions instead of the 36 that were included.

Conclusion

It is seen in all cross-tabulation tables that most of the respondents have a high opinion of acupuncture. Table 3 demonstrates that a surprisingly high 66.7% (37) of respondents hold a high opinion of acupuncture. It is a promising result, which indicates that the Bloomington /Normal medical community is very open to acupuncture as a treatment. However, it is important to note that significant and non-significant results could be partly biased due to the nature of the medical profession. The profession is very time-consuming and demanding; it is conceivable that respondents who already

possessed an interest in acupuncture were the ones who took the time to read and return the survey. Thereby, their responses resulted in a greater percentage of high opinions than would be present in a random sample. Those doctors who have no knowledge or a low opinion of acupuncture might have felt that the questionnaire was not worth their time, therefore, affecting the results.

Acupuncture is a holistic medicine that treats the mind, body and soul. Another factor biasing results could be the number of doctors of osteopathic medicine who responded to the survey.⁸ It is a system of health care that recognizes the self-healing and self-regulating ability of the body is dependent on a number of factors, including nutrition, environment and structural designs of the body (Deihl et al., 1997:123). Osteopathic medicine takes a more holistic approach to patients than traditional Allopathic medicine, striving to treat the mind, body and soul. In fact, the American Osteopathic Association endorsed the use of acupuncture as a therapeutic treatment in 1978 (Deihl et al., (1997)), long before those in control of medical knowledge in America had deemed acupuncture “safe” and “effective” by their standards.

Both Kuhn (1996) and Foucault (1994) present the idea that the people with the knowledge hold the power. Initially, when acupuncture was first introduced, the medical community had no knowledge of traditional acupuncture so they moved to thwart the people who did. It is interesting that the medical community believed so much in the scientific method and their way of finding knowledge that they put to test a 5000 year-old paradigm, attempting to use their standards of the scientific method, licensure procedures

⁸ Due to the anonymous nature of the respondents, it is impossible to determine exactly how many physicians were Doctors of Osteopathy.

and double-blind studies. Even with all of their tools, they have resisted accepting acupuncture because the modern medical world has not been able to explain the physiological basis of acupuncture. Many physicians and scientists alike question the validity of the effectiveness reported by patients and are certain that it is effective only due to the placebo effect.

An important factor possibly explaining the high opinions of physicians on acupuncture is the patient. If a patient tells her physician about a positive experience with acupuncture, then she has just raised the level of exposure, knowledge and possibly the opinion of the physician. If a patient asks about acupuncture as a treatment, then this forces the physician to expose herself to acupuncture and increase her knowledge about the treatment and its effectiveness. The patient's question, if the physician concludes that acupuncture is effective, will increase the referral rate for that physician. In this manner, the patient is urging the physician to expand their mind and try to look beyond the normal paradigm.

Acupuncture treatment is increasingly becoming more and more common. This study was undertaken to better understand the general opinion of physicians on acupuncture and the factors affecting that opinion. This investigation has shown that for a majority of physicians in the Bloomington/ Normal community, a high opinion of acupuncture has a significant relationship with exposure to acupuncture, physician knowledge and referrals to patients for acupuncture. This study showed no significance for the age, type of practice or religiosity level of the respondent on the physician's opinion of acupuncture. These results suggest that further studies are needed to investigate the varying effects on the opinion of physicians on acupuncture. As more

patients look favorably to the holistic therapy of acupuncture for certain medical problems, it appears that physicians have recognized the importance of understanding and having an established opinions on acupuncture to better serve their patients needs. It appears that after years of “needling,” mainstream medicine has finally begun to accept acupuncture into the normal paradigm of medicine.

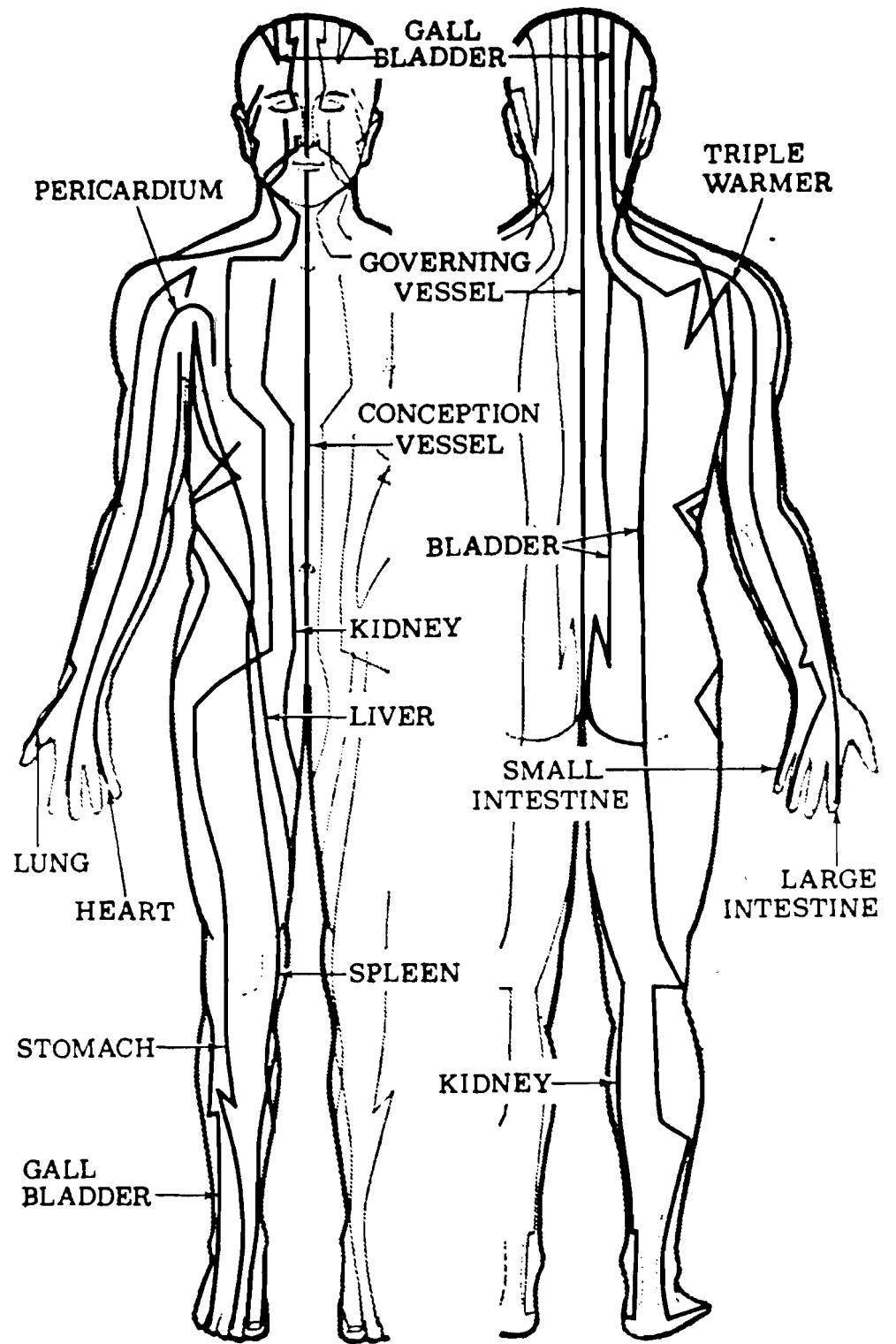


FIG. 19

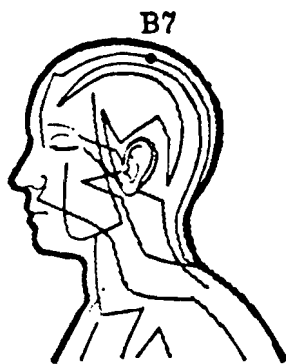


FIG. 18

Table 1. Results of past surveys, both national and International, about physician referrals for acupuncture. (percent).

Survey (author)	Percentage of Drs who refer
Berman et al (1995)	22.9
Ernst et al (1995)	66.0
Goldszmidt et al (1995)	68.0
Schachter et al (1993)	79.0
Wharton & Lewith (1986)	28.0
Astin et al (1998)	43.0

Table 2. Results of past surveys concerning physicians belief in the efficacy of acupuncture (percent)

Survey	Belief in Efficacy of Acupuncture
Berman et al (1995)	55.9
Goldszmidt et al (1995)	78.0
Schachter et al (1993)	54.0
Astin et al (1998)	51.0
Wharton & Lewith (1986)	67.0

Table 3. Physician knowledge of acupuncture (percent).

Survey	Knowledge of acupuncture
Berman et al (1995)	62.7
Goldszmidt et al (1995)	11.0
Wharton & Lewith (1986)	22.0

Table 4. Distribution of Physicians in Bloomington/Normal Community According to Dependent and Independent Variables

VARIABLES	NUMBER	PERCENT
DEPENDENT VARIABLE		
Opinion of acupuncture	n = 57	
Low opinion of acupuncture	7	12.3%
Moderate opinion of acupuncture	12	21.1%
High opinion of acupuncture	38	66.7%
INDEPENDENT VARIABLES		
Age	n= 52	
1920-1930	1	1.9%
1931-1940	6	11.5%
1941-1950	13	25.0%
1951-1960	22	42.3%
1961-1970	10	19.2%
Type of practice	n =53	
Surgeon	13	24.5%
Chiropractor	4	7.5%
Generalist	18	34.0%
Specialist	18	34.0%
Exposure to acupuncture	n = 55	
Been exposed during lifetime	43	78.2%
Never been exposed during lifetime	12	21.8%
Level of Religiosity	n = 55	
Low level of religiosity	16	29.1%
Average level of religiosity	19	34.5%
High level of religiosity	20	36.4%
Knowledge of acupuncture	n = 55	
Low to Below average	16	29.1%
Average	17	30.9%
Above average to High	22	40.0%
Doctor Referral for Acupuncture	n = 55	
Yes	27	49.1%
No	28	50.9%

Table 5. Distribution of physicians according to their acceptance of acupuncture cross-tabulated by exposure. (percent) n = 55

Opinion	Exposure	
	Been exposed during lifetime	Never been exposed during lifetime
Low opinion	7.0	25.0
Moderate opinion	16.3	33.3
High opinion	76.7	41.7
Total	100 (43)	100 (12)
Chi square	5.829*	

* = significant at the 10% level.

Table 6. Distribution of physicians according to acceptance of acupuncture cross-tabulated by knowledge of acupuncture. (percent) n = 55

Opinion	Knowledge of Acupuncture		
	High to Above average	Average	Below average to low
Low opinion	X [^]	11.8	25.0
Moderate opinion	9.1	35.3	18.8
High opinion	90.9	52.9	56.3
Total	100 (22)	100 (17)	100 (16)
Chi square	11.173*		

* = significant at the 5% level.

[^] = no responses present in this category

Table 7. Distribution of physicians according to acceptance of acupuncture cross-tabulated by referral for acupuncture treatment (percent).

Opinion	Refer patient for acupuncture treatment	
	Yes	No
Low opinion	7.4	17.9
Moderate opinion	7.4	32.1
High opinion	85.2	50.0
Total	100 (27)	100 (28)
Chi square	7.914*	

* = significant at the 5% level.

Table 8. Distribution of physicians according to their acceptance of acupuncture Cross-tabulated by age. (percent) n = 52

Opinion	Age				
	1920-1930	1931-1940	1941-1950	1951-1960	1961-1970
Low opinion	X [^]	16.7	23.1	4.5	10.0
Moderate opinion	X [^]	16.7	23.1	18.2	20.0
High opinion	100.0	66.7	53.8	77.3	70.0
Total	100 (1)	100 (6)	100 (13)	100 (22)	100 (10)
Chi square	3.827 ^{ns}				

ns = not significant at the 5% level

[^] = no responses in this category

Table 9. Distribution of physicians according to their acceptance of acupuncture cross-tabulated by type of practice. (percent) n = 53				
Opinion	Type of Practice			
	Surgeon	Chiropractor	Generalist	Specialist
Low opinion	23.1	X [^]	5.6	5.6
Moderate opinion	7.7	25.0	16.7	33.3
High opinion	69.2	75.0	77.8	69.8
Total	100 (13)	100 (4)	100 (18)	100 (18)
Chi square	6.512 ^{ns}			

ns = not significant at the 5% level.

[^] = no responses for this category

Table 10. Distribution of physicians according to their acceptance of acupuncture cross-tabulated by level of religiosity. (percent) n = 55			
Opinion	Level of Religiosity		
	Low religiosity	Average religiosity	High religiosity
Low opinion	X [^]	26.3	5.0
Moderate opinion	18.8	21.1	20.0
High opinion	81.3	52.6	75.0
Total	100 (16)	100 (19)	100 (20)
Chi square	7.731 ^{ns}		

ns = not significant at the 5% level.

[^] = no responses for this category

APPENDIX C

January 24, 1999

Hello!

Thank you for taking the time to complete this questionnaire. My name is Crea Fusco and I am a senior Sociology major at Illinois Wesleyan University. This questionnaire is the integral part of my Senior Honors Research project, where I am investigating the attitudes of medical practitioners on the subject of acupuncture and its uses in the United States. The prompt completion of this questionnaire is essential for me to complete my project and graduate. I would greatly appreciate it if you would return this to me within the next week to two weeks so I can properly analyze the data and submit my report in a timely fashion.

With your cooperation, I hope to reveal the reasons for the varying attitudes toward this alternative healing practice. The questionnaire results will be strictly confidential and the identity of the respondent will remain completely anonymous. There will be no way whatsoever to determine the respondent identity from his/her answers once they are entered into the database. If you feel that this is not the case, please feel free to withdraw consent and discontinue participation at any time. Please do not hesitate to call me, Crea Fusco, at 827-0797, if you have any questions. You may direct any further questions to my faculty supervisor, Dr. Georganne Rundblad at 556-3193 or the IRB Chair, Dr. Doran French at 556-3622.

To Ensure Confidentiality:

Peel off and dispose of the removable label with your name and address on the front flap. When you have completed the questionnaire, please fold it so it shows the return address on the front and staple the edge closed before mailing. All questionnaires will be returned from Bloomington or Normal, therefore, there will be no way of identifying the respondent from the postmark.

Thank you very much for your time and assistance.

Sincerely,

Crea Fusco

PLEASE WRITE YOUR ANSWER IN THE LINE PROVIDED USING A CAPITAL LETTER.

1. What is your date of birth? (mm-dd-yy) _____ - _____ - _____
 2. Prior to medicine, what job or occupation did you hold? _____
 - a. Student
 - b. professional (lawyer, architect, businessperson)
 - c. semi-skilled worker
 - d. unskilled worker
 3. What is your medical specialty? _____
 4. What is your religious preference? _____
 - a. Baptist
 - b. Buddhist
 - c. Eastern Orthodox
 - d. Episcopal
 - e. Islamic
 - f. Jewish
 - g. LDS (Mormon)
 - h. Methodist
 - i. Presbyterian
 - j. Quaker
 - k. Roman Catholic
 - l. Seventh Day Adventist
 - m. United Church of Christ
 - n. Other Christian
 - o. None
 - p. Refuse
 - q. Don't know
 5. Compared to an average person, rate your level of religiosity: _____
 - a. highest 10%
 - b. high
 - c. average
 - d. low
 - e. lowest 10%
 6. How many times do you attend religious activities a week? _____
 - a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4
 - f. 5 +
 7. How many leadership positions have you held in the community in the past five years? _____
 - a. 0-2
 - b. 3-5
 - c. 6-8
 - d. 9 and above
 8. How many leadership positions have you held in the Bloomington/Normal medical community in the past five years? _____
 - a. 0-2
 - b. 3-5
 - c. 6-8
 - d. 9 and above
 9. How many leadership positions have you held in your place of work in the past five years? _____
 - a. 0-2
 - b. 3-5
 - c. 6-8
 - d. 9 and above
 10. When were you first introduced to acupuncture? _____
 - a. Last year
 - b. 2-10 years ago
 - c. 11-20 years ago
 - d. 21-30 years ago
 - e. 31 + years ago
 - f. never
-

11. Where were you first introduced to acupuncture? _____
- Before medical school
 - Medical school
 - Chiropractor school
 - Outside the United States
 - At your place of work
 - A lecture or workshop
 - Other _____
 - nowhere
12. Compared to the average person, rate your knowledge of acupuncture as used in the United States? _____
- | | |
|------------------|------------------|
| a. Highest 10% | e. below average |
| b. Very high | f. very low |
| c. Above average | g. lowest 10% |
| d. average | |

Please answer yes, maybe or no to the following questions.

13. Do you believe that alternative healing practices, in general, can heal physical ailments effectively? _____
- Yes
 - Maybe
 - No
 - Don't know
14. Do you believe acupuncture can heal and/or treat physical ailments in an effective manner? _____
- Yes
 - Maybe
 - No
 - Don't know
15. Do you believe that acupuncture is a viable treatment for chronic pain? _____
- Yes
 - Maybe
 - No
 - Don't know
16. Do you believe that acupuncture is a viable anesthetic? _____
- Yes
 - Maybe
 - No
 - Don't know
17. Do you think acupuncture should become a fully accredited medical specialty by the AMA? _____
- Yes
 - Maybe
 - No
 - Don't know
18. In your opinion, who should be allowed to practice acupuncture? (Record all that apply) _____
- Doctors of Allopathic medicine (MD)
 - Doctors of Osteopathy
 - Non-physicians trained in acupuncture techniques
 - Chiropractors
 - Doctors trained in China
 - Any person meeting the requirements of the American Academy of Medical Acupuncture (AAMA)
19. Have you ever seen acupuncture performed on a patient? _____
- Yes
 - No
20. Have you ever administered acupuncture to a patient? _____
- Yes
 - No

21. In your personal opinion, why was there a general hostile attitude from physicians toward acupuncture in the 1970's? (Record all that apply). _____
- No empirical evidence or research supported acupuncturist's claims.
 - It was an unfamiliar treatment for Western doctors.
 - The Chinese philosophy of healing body, mind and spirit is much different than the ideas of Western medicine.
 - Most doctors believed that acupuncture is quackery and it only works because the patient's believe it will help them.
 - I do not believe a hostile attitude existed.
 - I do not know.

22. Do you think a hostile attitude toward acupuncture still exists in today's medical community? _____
- Yes, I believe there is a very hostile environment.
 - Yes, I believe there is somewhat of a hostile environment.
 - Maybe
 - No
 - I do not know.

If you answered NO for question 22, please skip question 23.

23. If so, how much has the hostility level toward acupuncture changed since the 1970's? _____
- Increased greatly
 - Increased slightly
 - Stayed the same
 - Decreased slightly
 - Decreased greatly

24. Have you ever suggested acupuncture as an alternative treatment to your patients? _____
- Yes
 - No

25. How often do your patients ask you about acupuncture? _____
- 1-5 times a month
 - 6-10 times a month
 - 11-15 times a month
 - over 15 times
 - I have never been asked about acupuncture.

If you answered e, go to question 27.

26. Have you ever discouraged a patient from seeking acupuncture treatment? (Record all that apply) _____
- Yes, I have done this within the last 5 years.
 - Yes, I have done this within the last 10 years.
 - Yes, I have done this within the last 15 years
 - Yes, I have done this within the last 20 years.
 - Yes, I have done this within the last 30 years.
 - I did a long time ago, but would not do it now.
 - No

27. Would you consider receiving acupuncture for your ailments? _____
- Yes
 - No

For the following statements, please answer if you disagree strongly, disagree somewhat, agree strongly, agree somewhat.

28. There is a significant lack of proof that acupuncture heals a person's physical ailments. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - I do not know.

29. There should be tougher restrictions on the practitioners and the practice of acupuncture. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
30. There needs to be more empirical research done on the physiological aspects of acupuncture. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - I do not know
31. There needs to be more empirical research done on the effectiveness of acupuncture. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - I do not know
32. There needs to be more empirical research done on the safety of acupuncture. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - I do not know
33. A great deal of the effectiveness of acupuncture is due to the placebo effect, where the patient believes it will work. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - I do not know
34. Acupuncture will never gain full credibility because it is a preventative medicine. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - I do not know
35. Do you agree with this statement? Chinese medicine stresses healing the body, mind and soul simultaneously. They treat the cause, not the symptom. American medicine should concentrate more on healing the body, mind and soul together? _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly
 - American medicine already does this.
 - I do not know.
36. Acupuncture will never gain full credibility because it cannot be evaluated using traditional biomedical scientific standards and procedures. _____
- Agree strongly
 - Agree somewhat
 - Disagree somewhat
 - Disagree strongly