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EXPLORING DOCTOR-PATIENT COMMUNICATION IN THE CONTEXT OF COMPLEMENTARY AND ALTERNATIVE MEDICINE

By

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ABSTRACT

ZIMMERMAN, EVA Exploring Doctor-Patient Communication in the Context of Complementary and Alternative Medicine

ADVISOR: MELINDA GOLDNER

The introduction of Complementary and Alternative Medicine (CAM) in the United States has recently led to increased interest in this topic. CAM encompasses a range of health care approaches that attempt to maintain or prevent illness, such as herbal supplements and acupuncture. The integrative health care movement, which is the integration of CAM with conventional medicine, has been rapidly growing among both health care providers and health care consumers, because most consumers use both types of medicine. Despite this growth, there are barriers to the acceptance and integration of CAM, including the inability of doctors to communicate with patients about this topic. Although there have been numerous studies analyzing components of doctor-patient communication in the context of conventional medicine, this thesis focused on analyzing the components of doctor-patient communication in the context of CAM. Roughly two hundred surveys were administered in order to analyze (1) *what* CAM users believed to be the most essential elements of doctor-patient communication (2) *who* was initiating the conversations regarding CAM use and finally (3) how comfortable patients felt discussing their current or potential CAM use with their doctors. Results suggest that most CAM users started using these therapies on their own, without the referral from any doctor, and that in conversations between CAM users and doctors, CAM use was frequently never discussed. Despite these results, most respondents said that they were relatively comfortable discussing CAM with their doctors, regardless of the fact that these conversations were not actually taking place. Potential implications and solutions to these findings are discussed in terms of how to most effectively improve doctor-patient communication in light of growing CAM usage.

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CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

Introduction

Health care providers and health care systems have been developing the concept and practice of complementary, alternative and integrative forms of medicine throughout the United States for the past three decades (Barnes et al. 2007). Complementary and Alternative Medicine (CAM) covers a range of approaches that attempt to maintain or prevent illness. CAM practices are not fully accepted as a part of conventional medicine because some of these approaches lack reliable scientific evidence to prove their safety and efficacy (Barnes et al. 2007). Instead, CAM practices are being used in the emerging field of integrative medicine or integrative health care (NCCAM 2008). Over the past decade, integrative health care has grown substantially among patients and health care providers and this movement has shed light on the innovative direction in which health care is headed (NCCAM 2008). Despite this growth, however, the complete integration of CAM faces various barriers and challenges from both doctor's and patient's perspectives. One of the biggest barriers preventing CAM therapies from being widely accepted is that patients are not communicating with their doctors, because doctors are not communicating with their patients (Corbin Winslow and Shapiro 2002). Although components and models of doctor-patient communication in the context of conventional medicine have been studied for decades, these components have rarely been applied to the challenges that face doctor-patient communication regarding CAM.

This thesis begins with a literature review that, first, defines the most widely used terminology within CAM, then, proceeds into an analysis of CAM from the consumer's, conventional practitioners, and alternative practitioner's perspectives. The literature review, then, details the essential components of doctor-patient communication from both the doctor's and the

patient's points of view within conventional medicine. Finally, the review concludes with a thesis proposing that these essential components of doctor-patient communication, in the context of conventional medicine, can be applied to the challenges doctor-patient communication faces within CAM.

The remaining chapters of this thesis detail the purpose, methodology, results, discussion and conclusions of the current study. Chapter two reiterates the research question and describes the sampling population used in the study which includes a detailed description of the survey used in this study, an explanation of how the survey was distributed, and a general idea of how data were analyzed at the end of data collection. Chapter three provides an extensive summary of the results, which includes multiple frequencies and cross tabulations against various demographics. Chapter three also explains these findings in relation to the initial research question regarding doctor-patient communication in the context of CAM. The fourth and final chapter presents the major conclusions of this research and offers practical implications and solutions based upon these findings. Limitations of this study and potential future areas of research are also included in this chapter.

Literature Review

Defining Terms

"Complementary," "alternative" and "integrative" medicine are all terms that are often used interchangeably, but they each encompass distinct concepts that set them apart from one another. As defined by the National Center for Complementary and Alternative Medicine (NCCAM), the Federal Government's lead agency for research on complementary and alternative medicine, *alternative medicine* uses non-mainstream methods *in place of* the

conventional techniques, such as synthetic drugs and surgery, that are included in allopathic or Western medicine (NCCAM 2008; Lemley 2014). These non-mainstream health care methods can be divided into two main sub-groups: those that use *natural products* and those that use *mind-body practices* (NCCAM 2008). *Natural products* are those such as herbs, vitamins, and probiotics that can typically be purchased without a prescription. These natural products are often marketed as dietary supplements (NCCAM 2008). *Mind-body practices* include acupuncture, massage therapies, meditation techniques such as mindfulness meditation, movement therapies such as Pilates, spinal manipulations, healing touch therapies, progressive relaxation techniques, hypnotherapies, and even more well known practices such as Yoga and Tai Chi (NCCAM 2008). Other practices that do not necessarily fall into these two sub-groups, but still qualify as complementary and alternative health approaches, include practices of traditional healers, Ayurvedic medicine, Traditional Chinese Medicine (TCM), homeopathy and naturopathy (NCCAM 2008). Few patients use alternative medicine exclusively; however, many patients are beginning to seek out different forms of complementary medicine (NCCAM 2008). *Complementary medicine* can be defined as medicine that uses these non-mainstream methods in addition to, but not in place of, conventional techniques. In simplest terms, complementary medicine is used as a complement to, but not a replacement for, conventional techniques (NCCAM 2008). An example of complementary medicine would be using ginger syrup or ginger tablets to reduce nausea during chemotherapy treatments (Lemley 2014). When referring to the use of these non-mainstream health care methods, whether it is in place of or in conjunction with conventional medical techniques, the most commonly used term is Complementary and Alternative Medicine, which is often identified by the acronym, CAM.

Integrative medicine or *integrative healthcare* combines the highest quality, scientifically proven therapies from both mainstream conventional techniques and CAM therapies (Lemley 2014). Integrative medicine is really *the practice of* conventional and CAM techniques, and has its own principles, definitions of health, and expectations of both patients and practitioners. Integrative medicine takes into account the mind, body and spirit and all aspects of an individuals' lifestyle to define one's health and well-being (Lemley, 2014). Some of the core principles of integrative medicine include (1) a partnership between patient and practitioner in the healing process (2) an appropriate use of both conventional and complementary and alternative techniques to facilitate the body's natural healing response (3) a philosophy that neither rejects conventional medicine nor strictly accepts alternative therapies (4) a use of natural, effective and less-invasive therapies whenever possible and (5) a trained group of practitioners who are taught to serve as models of health and healing and are also committed to their own self-exploration and self-development to further the field of CAM (Lemley 2014). While complementary medicine really refers to a *type* of medicine that is used, integrative medicine encompasses *how* this type of medicine can be used and puts this type of medicine in a certain context. For example, when cancer treatment centers have integrative health care programs, these cancer centers typically offer services such as acupuncture and meditation therapies to help patients cope with side effects of conventional treatments such as chemotherapy. Additionally these integrative health care programs generally offer a chance for the patient and practitioner to decide on these treatments collaboratively, and, thus, choose treatments that acknowledge the patient's entire well-being and lifestyle (Lemley 2014; NCCAM 2008). The term integrative medicine encompasses *how* complementary and alternative medicine, certain types of medicine, function in a health care setting (NCCAM 2008).

CAM Consumers

Based on the National Health Interview Survey (NHIS) conducted by the National Institute of Health's National Center for Complementary and Alternative Medicine (NIH NCCAM), by 2007, nearly 40% of adults had utilized a type of complementary or alternative medicine technique in the previous twelve months (Barnes et al. 2007). In the same year, nearly 12% of all children had utilized CAM techniques in the previous year (Barnes et al. 2007). In 2007, the most commonly used CAM therapies amongst adults were natural products, deep breathing exercises, meditation, chiropractic and osteopathic manipulations, massage, yoga and diet-based therapies (Ananth 2010). These CAM therapies were most often utilized to treat back, neck and joint pain or stiffness, and anxiety or depression (Ananth 2010). The NHIS has conducted surveys in 2002, 2007, and 2012; however, NCCAM has not provided analyses or access to the most recent 2012 survey, which is why the data provided in this review are mostly from the Barnes et al. study from 2007. Alternative articles referring to the use of the most popular CAM therapies and the most popular conditions treated by CAM therapies are based on smaller, non-representative samples that focus on the use of a particular CAM therapy for a particular condition (Anderson and Taylor 2012; Bertisch et al. 2012; Bethell et al. 2013; Bromfield and McGwin 2013; Hawk et al. 2012; Hoerster et al. 2012).

Based on the most popular types of CAM treatments, and the most likely conditions to be treated with CAM therapies, different percentages of overall out-of-pocket expenditures were found for the various CAM therapies. From a consumer standpoint, from 1990 to 1997, CAM expenditures increased over 45%, as significant portions of the population began using CAM therapies in conjunction with conventional therapies (Eisenberg et al. 1998). By 2007, adults in

the United States had spent nearly $34 billion on CAM related purchases. Approximately $22 billion was spent on CAM products, classes and materials while the other $12 billion was spent on visits to CAM practitioners such as acupuncturists, chiropractors, and massage therapists (Nahin et al. 2009). Nearly $15 billion of the total amount spent was used for the purchase of natural products (Nahin et al. 2009). This is a little more than 30% of the total amount spent on pharmaceutical drugs and medications in 2007. Interestingly, for the majority of CAM therapies, most adults spent less than $50 out-of-pocket when visiting CAM practitioners. However, close to 20% of patients visiting acupuncturists, and practitioners of homeopathy, naturopathy, massage, and hypnotic therapy spent over $75 out-of-pocket per visit (Nahin et al. 2009). Although these expenditures represent only a small percentage of the total out-of-pocket health-care spending in the United States (11.2%), these expenditures are still significant because they are out-of-pocket (Davis et al. 2012; Nahin et al. 2009). Interestingly, in another study that analyzed the distribution of expenditures of CAM users based on the 2007 NHIS data, it was found that individuals in the highest quartile of CAM spenders spent significantly more on CAM services than those individuals in the lowest quartile of CAM spenders. The highest quartile of CAM users accounted for 72% of all out-of-pocket CAM expenditures while the lowest quartile CAM spenders accounted for only about 2.5% of national expenditures (Davis et al. 2012). Narrowing these findings even farther, it was shown that the top 10% of CAM spenders accounted for almost half of the total out-of-pocket CAM expenditures (Davies et al. 2012). These findings, however, were not correlated to a lower health status in the highest quartile and top 10% of CAM users. This suggests that consumer behaviors, other than illness management, such as health promotion and prevention, could explain the high CAM expenditures of this small group of individuals, which will be explained in detail in the next section of this review (Davis et

al. 2012). These findings show that out-of-pocket spending on CAM is relatively concentrated, as a quarter of CAM users, a very small population of individuals, makes up a little more than 70%, a large majority, of all out-of-pocket expenditures on CAM services (Davis et al. 2012).

Based on these significant out-of-pocket expenditures in only a small group of individuals, it is evident that socio-demographic factors must play a role in the groups of individuals that most frequently use CAM. Some factors such as gender, age, education, number of health conditions, insurance coverage and number of doctor visits in the last twelve months, determine who is likely to utilize CAM more frequently. In both 2002 and 2007, CAM techniques were found to be more prevalent in treatment of women, adults in the age group of 30-69, adults who had received some form of higher education, former smokers, and adults who had been hospitalized in the previous year (Barnes et al. 2007). Children whose parents had used CAM techniques were twice as likely as all U.S. children to have used CAM techniques in the previous year (Barnes et al. 2007). Additionally, for those individuals who were younger than 65, those with private health insurance were more likely than those with public health insurance or no health insurance to partake in CAM techniques (Barnes et al. 2007).

CAM vs. Conventional Medicine

Although it is apparent that certain socio-demographic factors do play a part in determining the groups of individuals who are utilizing CAM therapies, it is also important to note that other factors, such as the congruency between individual beliefs and those beliefs of non-conventional techniques, also play a role in the broad spectrum of consumers that are beginning to use CAM therapies (Astin 1998). It is important to note that most CAM users are using alternative medicine, along with, not in place of, conventional health care (Ruggie 2004).

CAM techniques are based on a belief system that defines health as a state of physical, mental and spiritual well-being, whereas conventional medicine defines health as a state that is lacking disease or illness (Alster 1989). Patients are realizing they are people with needs, desires, and rights that should not be dictated solely by the autonomous physician. For these reasons, as well as the fact that some patients believe that conventional medicine does not properly address the mental, emotional and spiritual needs of patients, more individuals are seeking out alternative health care approaches (Micozzi 1996). Ruggie writes about the beliefs, values and philosophies of CAM being more aligned with the mental, emotional and spiritual needs of patients: "CAM embodies a philosophical orientation toward health and healing that emphasizes certain beliefs, for instance that healing is a natural process intrinsic to individuals, and certain values, for instance the relationship between humans and nature is symbiotic and whole" (Ruggie 2004: 60).

Additionally, CAM focuses on preventing disease, while conventional medicine focuses on treating chronic and acute disease. Conventional medicine assumes that for every disease there is an identifiable cause and a treatable effect of a certain disease state. Conventional medicine typically focuses only on the portion of the body that is affected by the illness, and is limited to treating objective signs and symptoms of that illness (Alster 1989). Prevention efforts in conventional medicine typically involve early screening programs, such as cervical smears and mammograms, rather than the identification of less specific signs and symptoms which are often the precursors of more significant illnesses (Micozzi 1996). Conventional medicine also fails to properly address chronic physical illness such as chronic pain (Micozzi 1996). Those going to alternative physicians for chronic physical illness and chronic pain had often lost hope in obtaining a satisfactory outcome using conventional medicine (Ruggie 2004).

According to author of *Marginal to Mainstream Alternative Medicine in America*, Mary Ruggie, another reason individuals have started to seek out CAM therapies is that individuals want to take more responsibility for their own health, and they believe they can achieve this sense of self-control and empowerment using CAM therapies (Ruggie 2004). Ruggie writes about the reasons why people are beginning to seek out CAM: "Those who turn to CAM are voting with their feet, showing not only their frustration but also demonstrating a desire for more personal, low-tech health care in which patients are people who have a voice" (Ruggie 2004: 47). Patients believe that using CAM allows them to take personal responsibility for their health and be involved in "informed decision making with their physicians" (Ruggie 2004: 53).

Caspi et al.'s (2004) study analyzed the decision-making process for patients who used alternative medicine or conventional medicine exclusively versus those who used a combination of both alternative and allopathic methods. First, for those patients using exclusively alternative medicine, the initial decision to try alternative therapies was based on three main factors including personal testimonials from friends, family or close associates, repeated suggestions to try the alternative therapy from these groups of people or other sources such as journals and books and repeated endorsement of the alternative therapy from these groups of people as well as other resources. The patients in this group did not assign any major "authority" to the alternative practitioners or allopathic medicine in general, rather these patients placed the ultimate authority on themselves to decide if alternative therapies were right for them based on their own personal beliefs as well as on the repeated suggestions, endorsements, and personal testimonials from friends, family, or other close associates (Caspi et al. 2004).

Second, those patients who used conventional medicine exclusively were found to rely heavily on their physicians to make health-related decisions for them and considered their

allopathic physicians to be the "ultimate authority" when it came to making decisions about their healthcare needs (Caspi et al. 2004). Finally, this study also found that patients who used a combination of both alternative and allopathic methods, were more likely to use CAM if these therapies had been repeatedly suggested to them by family, friends, other close associates, books, journals, or the Internet, if these alternative therapies were supported with scientific evidence, if these patients were dissatisfied with conventional medicine, if the severity of the medical need had exhausted all other options in conventional medicine, and more generally, if these therapies paralleled the patients' own health belief system emphasizing spiritual, emotional and physical health. In combination with validation from friends, family and multiple other sources of evidence, similar to the group who used exclusively alternative medicine, these CAM therapies had to make sense for the patient based on his or her own values, philosophical views, and personal lifestyle (Caspi et al. 2004).

Patients who tended to use complementary medicine were also greatly involved in their own treatment decision-making processes compared to patients who used allopathic medicine exclusively (Caspi et al. 2004). Rather than doctors ordering and patients simply complying, it appears patients who choose alternative or complementary routes desire to be more involved in their health care decisions (McCaffrey et al. 2007). One patient wrote about the benefits of the patient-centered care she received with an integrative practitioner: "'I think the quality of listening is very important. My experience with integrative medicine has been that the doctors listen, and they make suggestions, and they listen back to how you feel about the suggestions'" (as quoted in McCaffrey et al. 2007: 1503). These patients who used CAM were looking to share strong, trust-worthy relationships with their health care providers. In contrast, these patients did not feel they developed these open and conversant relationships with allopathic practitioners

(McCaffrey et al. 2007). One patient cites her dissatisfaction and her discomfort with conventional medicine "'…I had such traumatic experiences with conventional doctors; I have found that they don't listen to you carefully and they tell you that it's your imagination, when you're having a problem they are not familiar with'" (McCaffrey et al. 2007: 74). Generally, it is usually these problems conventional doctors are unfamiliar with or unsure of how to treat, such as chronic pain and chronic problems, that are most frequently treated using alternative therapies (NCCAM 2008).

Another study on patient and clinician openness to including a broader range of healing options shed additional light on CAM users' discomfort with conventional physicians (Hsu et al. 2011). Patients in Hsu et al.'s (2011) study noted that their physicians were noticeably unwilling to discuss other healing options with them based on their visually and verbally negative reactions. J.T. Harrigan's (2011) study on patient disclosure of the use of CAM to obstetricians and gynecologists provided insight on CAM users' disclosure with conventional physicians. Harrigan (2011) showed that a large percentage of those patients who were using CAM were not disclosing this information to the obstetricians, which presented a risk for the patient as well as the patient's unborn child. Harrigan (2011) found that the reasons patients were not disclosing this information was because their obstetrician was not asking for this information. Thus, according to the findings of these two studies, patients may not be sharing information regarding CAM usage with their providers because they do not feel comfortable enough with their provider, and also because they are not being asked specifically about any alternative health care usage.

Based on the analysis of several studies, it appears there is a combination of reasons as to why patients are choosing CAM. In summary, a patient's decision to use CAM revolves around (1) the patient's belief that health includes one's mental, emotional and spiritual states, which

they believe CAM is more likely to acknowledge (2) the patient's desire for a more communicative and patient-centered health care process, and (3) the patient's discomfort with conventional practitioners or dissatisfaction with conventional medical treatments. However, both the patient *and* the doctor play a role in the doctor-patient relationship. Thus, the perspective of both patients *and* their doctors need to be acknowledged in order to understand the barriers preventing the full acceptance of CAM.

Conventional Physician's Attitude Towards CAM

Physicians play a pivotal role in moderating patient's opinions and beliefs of CAM techniques and practices, which is directly correlated to the level of authority physicians have in health care (Kurtz et al. 2004). It is important to note that without physicians, a movement towards a more integrative form of medicine would not be possible. Based on increased patient interest in complementary and integrative medicine, many physicians are realizing that it is often necessary to examine health from a more holistic standpoint, analyzing the patient's physical, emotional, spiritual and social problems in relation to each other and one's health (Goldstein et al. 1987). Conventional practitioners note that alternative techniques should be used as a complement to, rather than as a replacement for, conventional techniques based on individual patient interest and how effective CAM techniques would be at treating the specific patient illness (Goldstein et al. 1987).

From a conventional practitioner's standpoint, it is also becoming increasingly appealing to incorporate CAM techniques into conventional medicine due to patients' desire to become more involved in their health care decisions. It is becoming necessary that both patients and physicians have the ability to discuss CAM openly and knowledgably with one another so

physicians can provide the correct care (Milden and Stokols 2004). Using a standard survey, Milden and Stokols' (2004) study investigated conventional physician attitudes towards the use of CAM therapies in medical practice, including physicians' willingness to prescribe and refer patients to CAM treatments, physician's decision to offer or practice CAM treatments as part of their own practice model, physicians' consultations of CAM literature, and physicians' personal use of CAM therapies. This study recognized that physicians felt they needed additional education and knowledge before being able to speak confidently to patients about potential CAM usage.

Milden and Stokols' (2004) found that 61% of physicians discouraged CAM usage because they did not feel knowledgeable about the safety and effectiveness of these treatments enough to prescribe them to patients. However, 81% of the physicians that were surveyed claimed to want more education on potential CAM therapies (Milden and Stokols 2004). Physicians who had been practicing for the longest time, and were most likely the oldest, were the most likely to oppose CAM treatments. This trend could be explained by these physicians' lack of CAM training and the influence of institutional norms they were subject to in their early medical training (Milden and Stokols 2004). Currently, medical schools are beginning to change their entire curriculum in order to incorporate information about CAM and integrative medicine earlier in medical training (Kreitzer et al. 2002).

Not surprisingly, the physicians who were most likely to express a positive intention to use and prescribe CAM to their patients were those who had positive attitudes towards CAM. For the purpose of this study, attitudes and intentions were defined based on Fishbein and Ajzen's earlier model. Attitudes were defined as positive or negative feelings toward objects or concepts, whereas intentions were defined as statements made by individuals indicating their

plan to enact a certain behavior. Interestingly, regardless of these positive attitudes and intentions, physicians' institutional concerns regarding the use of alternative therapies, including legal liability concerns, health insurance reimbursement and conventional medical protocol significantly decreased their likelihood of using CAM (Milden and Stokols 2004). This study concluded that physicians expressed a desire to learn more about CAM treatments in the form of additional educational opportunities and additional CAM-based clinical trials, yet physicians' institutional and normative concerns outweighed their beliefs of CAM efficacy and intent to prescribe CAM therapies to their patients (Milden and Stokols 2004).

Other studies addressed what conventional physicians needed in order to feel comfortable prescribing or referring patients to CAM therapies. Hsu's et al. (2011) study analyzing patient and clinician openness to a broader range of healing options focused on three main issues clinicians would need to address before offering any sort of alternative therapies: evidence of effectiveness and safety of treatment, the skill and knowledge in presenting alternative options to patients, and the ability to confidently recommend an alternative therapist to patients. First, this coincided with Astin et al.'s (1998) findings that suggested "outcomes studies" are necessary in order for physicians to make educated decisions about CAM using evidence based findings rather than cultural norms or anecdotal evidence. Second, this also coincided with Milden and Stokols' (2004) study that showed that physicians who were more likely to prescribe CAM therapies were those that had positive attitudes towards CAM. If physicians knew more about the effectiveness and safety of CAM treatments and had the ability to recommend their patients to a particular alternative therapist based on their own knowledge of alternative therapies, they would have a more positive attitude towards CAM and, thus, refer their patients to CAM therapies more frequently (Hsu et al. 2011; Milden and Stokols 2004).

It was also found in Hsu et al.'s (2011) study that clinicians wanted evidence-based findings for any healing option they were to recommend. Clinicians found it necessary to be knowledgeable about the healing options incorporated in CAM (Hsu et al. 2011). For example, clinicians wanted to be able to be able to inform patients about potential discomfort during specific treatments (Hsu et al. 2011). This finding is supported by Corbin Winslow and Shapiro's (2002) study that concluded that education about CAM therapies could help alleviate discomfort physicians have when answering patients' questions about CAM.

Finally, in Hsu et al.'s (2011) study, clinicians expressed a desire to be able to refer patients to trusted alternative practitioners. Because conventional physicians are unfamiliar with or uneducated about CAM in general, they often do not know who the reliable and trust-worthy alternative practitioners are in their communities. Hsu et al.'s study (2011) showed that when clinicians were able to talk positively about informational presentations or demonstrations they had seen by alternative practitioners, the clinicians had more confidence when referring the patient to that particular treatment method and practitioner.

Based on the analysis of several different studies, it is apparent that there are several overarching themes seen in conventional practitioners' responses to CAM. First, it is apparent that physicians both want and need more education of CAM therapies so they can better advise patients. The solution to this problem may lie in physicians referencing information from NHSTA Directory of Complementary and Alternative Practitioners, which attempts to promote qualified alternative practitioners in certain areas (nhsdirectory.org). Second, from the various studies it is evident that physicians believe evidence-based CAM clinical trials are the most reliable way to assure that the alternative treatments conventional physicians recommend are both safe and effective for their patients. Finally, from these studies, it is clear that physicians

need more guidance on how to communicate with their patients about certain CAM treatments and should be educated on how to appropriately ask their patients about their CAM usage, because patients do not initiate this conversation.

Alternative Practitioner's Attitude Towards CAM

Although it is important to consider what conventional physicians think about this new direction of health care, it is also important to understand alternative practitioners' attitudes. As alternative practitioners are the ones who are actually implementing these practices, they play an integral role in the increased success and integration of CAM therapies.

Using 32 in-depth interviews, Barrett et al. (2004) explored the attitudes, beliefs, and insights of CAM practitioners. The alternative physicians included in this study offered a range of therapies, the most common including acupuncture, Traditional Chinese Medicine, Feldenkrais (a self-awareness exercise), energy healing, herbalism, homeopathy, massage, naturopathy, Tai Chi, Yoga, aromatherapy, and naturopathy. The number of years practicing, number of hours per session, number of clients per week, and payment rate per visit were the characteristics analyzed for each alternative medical practice. During the interviews CAM practitioners also analyzed the perceived differences between CAM and conventional medicine and the perceived barriers to integration (Barrett et al. 2004).

Barrett et al. (2004) found that CAM practitioners stated one of the main reasons people visit them is for their chronic, rather than acute, health problems. These problems included back pain, joint pain, depression, diabetes, cancer and other illnesses. These problems are often seen in an alternative setting because they cannot necessarily be cured, rather, they require prevention or management techniques so the symptoms do not progress (Barrett et al. 2004). Interestingly,

it was found that CAM practitioner's perceptions' of these illnesses differed from conventional physicians. CAM practitioners identified the underlying causes of these illnesses to be influenced by an emotional, spiritual or energy imbalance. It was also found in this study that CAM practitioners acknowledged that most of their patients had been seen by a conventional practitioner and had been treated with conventional medicine prior to their visit. CAM practitioners had an overall support for this, as they stated an integrated system, one in which *both* CAM and conventional medicine were available to patients, was optimal (Barrett et al. 2004). This coincides with the results from Ben-Arye et al.'s (2007) study that found that both conventional practitioners and CAM practitioners expressed an increased desire for clinical practice cooperation and consultation collaboration in order to formulate integrative treatment plans for their patients.

Not only did CAM practitioners' perceptions of patients' illness differ from that of conventional practitioners, but also their perception of themselves and their practices differed from that of conventional practitioners. In Barrett et al.'s (2004) study, CAM practitioners perceived themselves as more holistic, empowering, inductive, individualistic, and intuitive while they perceived conventional practitioners as more reductionistic, controlling, deductive, generalizable, and scientific. Likewise, in Footracer et al.'s (2012) study, looking at attitudes and practices of massage therapists, massage therapists stated that they found conventional medicine to be "'impersonal, scary, authoritarian and harsh'" (22). Massage therapists believed that conventional practitioners placed too much emphasis on curing illness and not enough emphasis on the shared doctor-patient responsibility for preventing illness and maintaining the patient's health. Similarly to Footracer et al.'s (2012) study, Barrett et al.'s (2004) found that conversely to conventional practitioners, CAM practitioners stated that they worked to empower patients in

attempts to get them to take responsibility for maintaining their own health. This coincides with one of the primary reasons patients seek out CAM therapies and integrative medicine—in order to be part of a partnership between patient and provider in the healing process (Lemley 2014).

Barrett et al.'s (2004) study also asked CAM practitioners to identify barriers to integration of conventional and complementary medicine. CAM practitioners felt that biased and prejudice attitudes and belief systems, rather than economic or scientific considerations such as lack of scientific evidence, were the major contributors to the barriers of integration (Barrett et al. 2004). One respondent elaborated on this concept of prejudice to CAM therapies and alternative practitioners: "'There's still a lot of fear and suspicion and prejudice about CAM…Are alternative practitioners' legitimate, you know?'" (as quoted in Barrett et al. 2004:257). Barrett et al. (2004) pointed out that these prejudices and fears stemmed from a lack of communication and understanding between the two groups of health care professionals. Another respondent commented on this communication barrier: "'I think that sometimes the words that people use or the way that a person presents himself, if it's not the vocabulary that you're used to, you have to do a lot of translation in your own mind and figure out…is this person really saying something that makes sense or not'" (as quoted in Barrett et al. 2004:257). Although CAM practitioners cited different attitudes and belief systems as the major barriers of integration, other significant barriers that were noted included perceived arrogance of conventional practitioners, lack of training of conventional practitioners, inability to communicate with patients due to obscure language and terminology and a general feeling of distrust between both groups of practitioners (Barrett et al. 2004).

Based on these studies it can be generalized what CAM practitioners think about CAM treatments and delivery. From these studies it is evident that CAM practitioners perceive

themselves as more holistic and individualistic health care providers who mainly focus on empowering the patient and involving the patient in his or her own health care decisions. Although CAM practitioners desire more education on conventional techniques, it appears CAM practitioners place a higher priority on gaining the respect of conventional practitioners. Without this respect, and ability to communicate with one another, CAM practitioners envision CAM and conventional medicine remaining separate entities. Regardless of the beliefs of either conventional or alternative practitioners, both types of doctors have an equally large role in communicating with each other and, most importantly, communicating with their patients.

Components of Doctor-Patient Communication

From these previous sections detailing the patient's, conventional physician's, and alternative practitioner's perspectives of CAM therapies it is evident that CAM therapies are popular, but their usage is not being optimized in all cases. There are barriers to developing integrative health care, one of the most important being the lack of communication about this subject between doctors and their patients. Mary Ruggie writes in *Marginal to Mainstream Alternative Medicine in America*, that it is a combination of (1) obscure medical language, (2) condescending medical worldview of the patient as a diagnosis and (3) the physician's lack of sensitivity towards a patient's emotional, social and personal state of being that presents difficulties with doctor-patient communication regarding complementary and alternative medicine (Ruggie 2004). Despite the fact that these challenges have been recognized, the precise factors that constitute what patients actually want out of their communication with their doctors regarding complementary and alternative medicine have been less clearly identified.

Doctor-patient communication in conventional medicine, however, has been studied and its components have been analyzed using various models, coding techniques and interaction

analysis methods (Beck et al. 2002; Neeman et al. 2011; Roter and Hall 1989). These methods have been used to identify what specific verbal and non-verbal behaviors lead to highest patient satisfaction, comfort and compliance, and thus better patient health outcomes. When looking at these various methods, it is most important to identify why satisfaction with doctor-patient communication matters in the overall scheme of the entire doctor-patient relationship, what doctors want to get out of their communication with patients, and most importantly, but less frequently studied, what patients want to get out of their communication with doctors.

a. Why Doctor-Patient Communication Matters

Communication in doctor-patient relationships has been extensively studied because enhanced communication has been shown to lead to higher patient satisfaction, better patient adherence to health treatment plans, and improved patient health outcomes (Stewart 2005). This coincides with Kaplan et al.'s (1989) study that showed more patient control, more positive affect, and more information provided by physicians during office visits were correlated with better health status. Stewart et al.'s (2000) study showed that patient-centered practices and communication techniques led to improved health status and increased the efficiency of care by lowering the number of diagnostic tests and referrals. Similar to these findings, Little et al.'s (2001) study showed that patient-centered approaches were correlated with higher patient satisfaction, increased patient autonomy, fewer reoccurring symptoms, and lower rates of referral. Kenny et al.'s (2010) study, similarly, showed that improved communication in doctor-patient relationships improved patients' health outcomes, improved patient treatment compliance and lowered patient complaints. Additionally, Krupat et al.'s (2001) study showed that patients whose beliefs were congruent with physician beliefs were more likely to trust and respect their

physicians. Overall, enhancing doctor-patient communication led to better health outcomes for patients, increased adherence and compliance to treatment plans, enhanced trust in doctor-patient relationships, and lowered referrals and repeat diagnoses. Applying these principles to doctor-patient communication regarding complementary and alternative medicine would appear to predict that enhanced doctor-patient communication in this area would lead to higher satisfaction for both the doctors and patients involved in this relationship. Understanding why doctor-patient communication is important leads to the next section that addresses what doctors and patients look for when achieving satisfactory communication about complementary and alternative medicine.

b. The Doctor's Perspective

When analyzing doctor-patient communication it is important to, first, understand what doctors expect to receive out of their communication with patients and how doctors can pursue the most satisfactory communication with their patients. Essentially, physicians want to be able to get the correct information from their patients in order to establish the correct diagnosis and treatment plans (Ong et al. 1995). In order to have the most effective therapeutic exchange with patients, and to gather the correct information from their patients, physicians must be empathetic, positive, and have congruent attitudes with the patients they are treating (Rogers 1967). Talen et al. (2011) additionally stated that to achieve the most effective doctor-patient communication the doctor must be an attentive listener, must engage in positive nonverbal communication such as a relaxed and comforting posture, must be attentive to the patient's emotions and finally, must engage in shared decision-making with the patient. One analysis went so far as to say that in

order to achieve effective communication, "the physician must enter the patient's world to see the illness through the patient's eyes" (Mead and Bower 2000: 1087).

Based on these findings, it is clear why doctors often have a difficult time communicating with their patients about complementary and alternative medicine. It is difficult for physicians to be positive towards their patients or share attitudes with patients regarding complementary and alternative techniques they feel they know little about. As discussed earlier, this is supported by Milden and Stokols' (2004) study that found that 61% of physicians discouraged the use of CAM therapies for their patients because they did not feel knowledgeable about CAM treatment's safety and effectiveness. This is also supported by Hsu et al.'s (2011) study that showed clinicians found it necessary to be knowledgeable about alternative healing options before prescribing them for the purpose of the safety of their patients' health. When physicians are not knowledgeable about these practices, it is harder for them to fully listen and to engage in a patient's emotions, and make shared decisions with their patients because they are not sure how CAM treatments can really help their patients or if these treatments are even safe for their patients to use (Milden and Stokols 2002). Additionally, it is hard for doctors to formulate a coherent treatment plan that includes CAM if they do not know a reliable, and trust-worthy practitioner to send their patients to (Hsu et al. 2011).

It is difficult to pinpoint one single reason why physicians are having trouble communicating with their patients about CAM. Given what is known about the physician perspective of doctor-patient communication, and applying this to physician's attitudes about complementary and alternative medicine, however, it is easier to understand this disconnect. Physicians want to be able to understand information from their patients and, through shared-decision- making with patients, with a positive and empathetic attitude, physicians hope to

design the most coherent, patient-centered, and safe treatment plan in order to provide the best care for their patients (Mead and Bower 2000; Ong et al. 1995; Rogers 1967; Talen et al. 2011). Because physicians feel uneducated about the safety and effectiveness of CAM, and do not know who the most reliable and trustworthy alternative practitioners are in their communities, physicians often do not ask or communicate with their patients about their CAM usage (Corbin Winslow and Shapiro 2002; Ruggie 2004). If not directly asked about their CAM usage, it seems that patients do not speak up because they feel as though their physicians are either uninterested or disapproving of their CAM use, when really these physicians are simply uneducated about this topic (Milden and Stokols 2004; Ruggie, 2004).

c. The Patient's Perspective

While physicians have a duty to communicate with their patients about alternative treatments, patients also have a duty to communicate with their doctors about their desire to pursue these alternative treatments. When asked about how clinicians should introduce recommendations for alternative treatment options, patients had clear expectations for how they wanted these options presented (Hsu et al. 2011). Patients wanted these recommendations to be presented by physicians as an option, not an order. These patients also wanted these new treatment options to be added to their conventional care, not as a replacement to standard diagnosis and treatments (Hsu et al. 2011). When patients were not directly asked about possible alternative treatment options, however, they did not raise the issue to their physicians (Ruggie 2004). Rather than risk a negative or condescending reply, patients would prefer to keep these two different worlds of health care separate (Ruggie 2004). This was demonstrated in Hsu et al.'s (2011) study that found that patients perceived their conventional practitioners to have negative

reactions when these patients tried to discuss alternative healing options with them. This causes problems for patients. Without the guidance of their conventional practitioners, patients may be putting themselves at higher health risk in terms of harmful herb-drug interactions (Ruggie 2004). This coincides with the findings in Harrigan's (2011) study that showed a large percentage of patients using CAM were not disclosing this information to their obstetricians and this presented a risk, not only for the patient but also for the patient's unborn child. In this study, it was found that because the physician was not asking for information regarding CAM, the patient felt no need to disclose this information to her obstetrician (Harrigan 2011).

From a patient's perspective, there are two needs to be met upon visiting a conventional physician. Patients desire to know and understand—to know what is the matter with them and to understand the cause of their pain or symptoms. But, patients also desire to feel known and understood—to know the doctor accepts the patient and takes the patients' concerns seriously (Ong et al. 1995). It appears that patients are able to fulfill the former, but are misguided on how to fulfill the latter portion when it comes to communicating with their conventional practitioners about complementary and alternative medicine. They feel uncomfortable initiating conversations about CAM, as their practitioners are not asking the essential questions, and they feel afraid of being judged by their conventional practitioners based on the negative reactions they receive when discussing alternative treatment plans (Harrigan 2011; Hsu et al. 2011; Ruggie 2004).

From these findings, it seems as though it is clear what constitutes patient satisfaction with doctor-patient communication regarding conventional medicine; however, what constitutes patient satisfaction with doctor-patient communication regarding complementary and alternative medicine has been less frequently studied. Although patients have an idea of how they want alternative treatments proposed to them, they are unsure how to achieve satisfactory

communication with their doctors about complementary and alternative medicine. Patients who are unable to communicate with their doctors about their CAM usage contribute to one of the most substantial barriers in developing integrative health care.

Thus, by analyzing the components that lead to the greatest patient satisfaction of doctor-patient communication in the context of conventional medicine, and applying these components to the challenges patients face when attempting to communicate with their doctors about complementary and alternative medicine, this thesis will explore how to improve doctor-patient communication in light of growing CAM usage.

CHAPTER TWO: METHODS

The purpose of this study is to understand and assess the components of doctor-patient communication in the context of complementary and alternative medicine (CAM). Doctors and their patients are becoming increasingly interested in using CAM therapies as a more preventative and holistic way of maintaining health and treating illness. Increased awareness and usage of CAM treatments, however, has led to several challenges and barriers that have prevented CAM from being accepted and used to its fullest capacity; one of the most prominent barriers being the lack of communication between doctors and their patients about CAM usage. Based on this apparent barrier and the essential components that make up a doctor-patient relationship, it was expected that the individuals who had used some form of CAM treatment most likely had not spoken to their doctors about their CAM usage and most likely had not been referred to use CAM by their allopathic doctor. It was also expected that the reason respondents were not discussing CAM with their doctors was because they were not comfortable bringing these topics up with their doctors which would be reflected in a low median for the sliding scale questions. A survey of male and female undergraduate students was designed to examine how CAM is being discussed, if at all, in a traditional health care setting. Responses to the survey will be used to help understand how to improve doctor-patient communication in light of increasing CAM usage.

Sampling Population

After receiving required approval for the research design from the Human Subjects Review Committee, the survey was administered to a sample of students at a small liberal arts college in the Northeast. The students at this college, roughly half are female, come from all

parts of the United States and world. After electronically contacting several professors across different academic disciplines, I requested to administer the survey in the first or last six minutes of each class. Once the professor granted me permission, I set up times with the professor to conduct the survey in each class. Out of a total of 216 administered surveys, there were 201 surveys that were actually completed. Fifteen students verbally said they had completed the survey in other classes and did not repeat the survey. Based on sheer numbers it appears there was approximately a 93% response rate; however, when excluding repeat students it appears that 100% of respondents completed the survey.

Distribution of the Research Instrument

I administered the survey to nine classes across the fields of Sociology, Chemistry, and Physics. Prior to handing out informed consent forms to each class, I explained to the students who I was, what my major was, and that I was completing my senior thesis on doctor-patient communication with regards to Complementary and Alternative Medicine. The students were told that their participation in this short survey was voluntary, that all responses were completely anonymous and that there were no repercussions if the student chose not to participate. In addition, students were told that they were allowed to skip any questions on the survey that made them feel uncomfortable. Surveys were collected after an informed consent form was completed by each student. Surveys were placed in one pile and informed consent forms were placed in a completely separate pile to insure anonymity. Surveys were kept separate from informed consent forms in a secure location for the duration of the study.

Description of the Survey

The complete fifteen-question survey, located in the Appendix, is divided into four sections: demographics, questions for all participants, questions for those who *had* used CAM, and questions for those who *had not* used CAM. In the demographics section, questions 1-4, participants were asked to specify age, sex, race, and religious affiliation. Questions 5-7 were meant to be answered by all participants. Question 5 was targeted to address what patients thought to be the most important elements in the doctor-patient relationship that allowed for effective communication. Question 5 was designed based on the results of McCaffrey's et al. (2007) article, *Understanding Patient Preference for Integrative Medical Care: Results From Patient Focus Groups*. The participants were asked to rank the following elements from 1, being the most important to effective communication, to 5, being the least important to effective communication: trust, respect, open-mindedness, similar belief system, understandable language used, length of time spent with the doctor, length of time patient has known doctor, ability of the doctor to address chief complaint, and a written summary of a care plan. Question 6 was an open-ended questions that asked participants to define CAM in their own words. Question 7 was designed to understand which forms of CAM participants had or had not used. If participants had not used any form of CAM they were prompted to skip to the section for those who had not tried CAM, questions 13-15. If participants had used a form of CAM, they were to continue onto the next section, questions 8-12.

Questions 8-12, for CAM users, were designed to understand how individuals had first heard of CAM, how they first began using CAM, and finally how CAM was brought up, if at all, in conversations with their physician. Questions 11 and 12 were modified from the Perceived Efficacy in Patient-Physician Interactions (PEPPI) Questionnaire referenced in Neeman's et al.

(2011) article, *Improving doctor-patient communication in the outpatient setting using a facilitation tool: a preliminary study*. Participants were asked to circle a number from 1 (not comfortable at all) to 10 (very comfortable) in the following two statements in order to address the level of comfort established when discussing current or anticipated CAM usage with a conventional physician:

11. How comfortable are you in asking your physician questions about Complementary and Alternative Medicine (CAM) treatments you are receiving (Circle number)?

1 2 3 4 5 6 7 8 9 10
Not comfortable at all Very comfortable

12. How comfortable are you in asking your physician about new Complementary and Alternative Medicine (CAM) treatments you are interested in (Circle number)?

1 2 3 4 5 6 7 8 9 10
Not comfortable at all Very comfortable

Questions 13-15 were only for non-CAM users. Question 13 analyzed if CAM had ever been brought up in conversation by a physician, and if so, what type of CAM therapy was referenced. Question 14 was an open-ended question addressing why participants had chosen not to use CAM. Finally, question 15, another question modified from the PEPPI scale, was used to address how comfortable non-CAM users felt requesting more information on CAM from their physicians. This question was designed to parallel questions 11 and 12 in the CAM-user section, and to determine if non-CAM users felt different levels of comfort than CAM users when discussing CAM with physicians.

Data Analysis

After receiving completed surveys from 201 participants, surveys were numbered to protect student's identities and preserve confidentiality of students' responses. Survey #1-154 were filled out completely correctly, while survey #155-201 had some sort of inconsistencies with the rest of the group. Respondents associated with survey #155-171 responded that they had used a particular form of CAM and also answered the section for respondents who had not used any forms of CAM. Respondents associated with survey #172-178 ranked multiple elements in question 5, as 1's, 2's 3's, etc, instead of assigning 1, 2, and 3 to a single element. Respondents associated with survey #179-196 placed checkmarks next to the elements in question 5 as opposed to ranking the elements numerically. Finally, survey #197-201, were only partially filled out, and thus, were considered incomplete. The responses to all correctly filled out questions, besides the two open-ended questions were, then, coded and input into Statistical Package for the Social Sciences (SPSS) where cross tabulations and frequencies were run on pertinent demographics. Frequencies for all questions were run to discover the most commonly chosen answers for each question. Cross tabulations were run for each question against the four main demographic categories: age, sex, race and religion. Due to the relatively small sample size of 201 participants, several variables were transformed and recoded for comparative purposes. Finally, the answers to the two open-ended questions were input into an Excel document and organized into themes. For example, respondents' definitions were color-coded and grouped by keywords to be discussed in the next chapter.

CHAPTER THREE: RESULTS AND DISCUSSION

Introduction

This section begins with an extensive summary of the results, which includes various frequencies that summarize the major findings of the current study. These frequencies are divided into four main sections to make analysis clearer: Demographics, Questions for all respondents, Questions for CAM users and Questions for non-CAM users. The discussion, interspersed between the results, relates these findings back to the literature presented in Chapter 1. The results are discussed both in relation and in contrast to existing studies in order to understand these findings. This section concludes with various cross tabulations that shed light on the trends within each specific demographic and present this research in the broader context of society as a whole.

DEMOGRAPHICS

Respondents were asked to specify the following demographic information: age, sex, race, and religious affiliation. The frequencies of each of these demographic variables are presented in Table 1. Respondents ranged in age from 18-24. The largest groups of respondents were 19 (25.4% N=51) and 20 (41.8% N=84) years of age. Nearly 70% of the respondents were female (N =139), and the majority of respondents were white and not Hispanic (73.6% N=148). In terms of race and ethnicity, respondents were asked to check all that apply; however, all respondents chose only one race or ethnicity. There was an apparent spread of religious affiliations with the highest prevalence identifying as Catholic (37.8% N =76). Other large groups of respondents

were either Jewish (17.9% N=36) or did not identify with any religion (17.4% N=35). Overall, there was quite a variation of respondents within the sample.

Table 1. Frequencies of Demographic Variables

Variable Name	*%*	*N*
Age		
18	8.5	17
19	25.4	51
20	**41.8**	84
21	18.9	38
22	4.5	9
23	.5	1
24	.5	1
Gender		
Male	30.8	62
Female	**69.2**	139
Race/ethnicity		
White, not Hispanic	**73.6**	148
Black	4.0	8
Asian or Pacific Islander	13.9	28
Native American	.5	1
Hispanic	5.0	10
Other	3.0	6
Religious affiliation		
Catholic	**37.8**	76
Protestant	9.5	19
Jewish	17.9	36
Muslim	2.5	5
Buddhist	1.0	2
Hindu	3.5	7
None	17.4	35
Other	10.0	20

Note: Percentages may not add to 100 due to rounding of data

QUESTIONS FOR ALL RESPONDENTS (Survey Questions 5-7)

Question 5: Elements of Effective Communication

The frequencies and percentages for question 5 are presented in Table 2. In question 5, when ranking what respondents believed to be the most important elements to allow for effective doctor-patient communication, more than half of respondents chose "Trust" as their first choice (53.0% N=105). The next largest groups, both with 13.6% (N=27) of respondents, chose "Chief complaint addressed" and "Respect" as their first choices. The most commonly chosen second and third choices of respondents was also "Respect" (29.9% N=55 and 20.3% N=38). Respondents' most frequently chosen fourth choices were tied between "Open-Mindedness" "Length of time you have known physician" and "Length of time you spend with physician at individual appointments" (14.8% N=27). "Chief complaint addressed" (16.1% N=29) and "Understandable language/medical terminology used" (15.6% N=28) were most likely to be chosen as respondents' fifth choices. A few respondents assigned higher numbers, such as 6 and 7, to their preferences, but this analysis only examined preferences 1-5 for consistency. The complete list of frequencies for individual answer choices are located in the Appendix.

Trust, being chosen as the most important element for effective doctor-patient communication, is consistent with previous research on decision-making processes patients go through to choose the most beneficial treatment plans (Caspi et al. 2004). Trust in allopathic providers was essential for patients to feel confident in the treatment plans they chose to pursue (Caspi et al. 2004). Additionally, in a different study, patients who chose to use CAM were looking to share strong, trust-worthy relationships with their health care providers (McCaffrey et al. 2007). As will be shown later, contrary to the current study, however, the patients in McCaffrey's et al. (2007) study did not feel that they could develop these open and conversant

relationships with allopathic practitioners (McCaffrey et al. 2007). Another study also showed that patients whose beliefs were congruent with physicians' beliefs were more likely to trust and respect their physicians (Krupat et al. 2001). Krupat's et al. (2001) study further supports why "Trust" and "Respect" were ranked among respondents in the top five most important elements to effective communication, but places more emphasis on "Similar Beliefs" than was seen in the current research. Other studies showed that more patient control, more positive affect, and more information provided by physicians during office visits, potentially in the form of written summaries of care plans, were correlated with better health status and better communication between doctors and patients (Kaplan et al. 1989; Stewart et al. 2000). This, however, was not supported by the current research as written summaries of care plans, although indicated as important, was not one of the top five elements chosen for effective communication. There was less support in other studies for elements such as "Length of time you spend with physicians at individual appointments" "Length of time known physician" and "Open-mindedness," however, it is important to note that these elements were also likely to be ranked amongst the top five most important elements to effective communication in the current study.

Table 2. Frequencies of Chosen Elements of Effective Doctor-Patient Communication

	Most Chosen Element Percent (Frequency)	**2nd Most Chosen Element** Percent (Frequency)	**3rd Most Chosen Element** Percent (Frequency)	**4th Most Chosen Element** Percent (Frequency)	**5th Most Chosen Element** Percent (Frequency)
Trust	**53.0** (105)	19.6 (36)	10.2 (19)	4.4 (8)	3.9 (7)
Respect	13.6 (27)	**29.9** (55)	**20.3** (38)	13.2 (24)	6.7 (12)
Open-mind	7.6 (15)	7.6 (14)	9.6 (18)	**14.8** (27)	13.9 (25)
Similar Beliefs	.5 (1)	2.2 (4)	3.2 (6)	4.4 (8)	7.2 (13)
Understandable language/medical terminology used	6.1 (12)	12.0 (22)	16.6 (31)	17.0 (31)	**15.6** (28)
Length of time known physician	2.0 (4)	9.2 (17)	13.3 (25)	**14.8** (27)	12.2 (22)
Length of time spent with physician	2.5 (5)	4.3 (8)	8.6 (16)	**14.8** (27)	15.0 (27)
Chief complaint	13.6 (27)	13.0 (24)	15.5 (29)	14.3 (26)	**16.1** (29)
Written Summary of Care Plan	1.0 (2)	2.2 (4)	2.7 (5)	2.2 (4)	9.4 (17)
Total	100%* (198)	100% (184)	100% (187)	100%* (182)	100% (180)

**Due to rounding, percentages may not total exactly 100%*

Question 6: Defining CAM in Respondents' Own Words

When respondents were asked to define CAM in their own words, in a written short answer question, there were several reoccurring responses. Of the general overarching trends, 41 respondents wrote that CAM was a "non-traditional" form of medicine, 39 respondents wrote that CAM entailed "medicine without drugs" or "medicine without the use of pharmaceuticals," 19 respondents had no idea what CAM was, 11 respondents wrote that CAM "went along with conventional medicine" or "complemented typical medicine," 11 respondents used the term "holistic" in their definition, 9 respondents wrote that CAM was a type of medicine that was not

scientifically proven or supported by science, 7 respondents wrote that CAM was a type of "free" medicine, and finally, 1 respondent wrote that CAM was a type of medicine "not covered by health insurance." According to the definitions provided by the National Center for Complementary and Alternative Medicine for *Complementary, Alternative,* and *Integrative* medicine, 91 out of these 138 (65.9%) recorded responses incorporated some elements of the official and nationally accepted definitions (NCCAM 2008).

There were several other especially interesting answers respondents provided when asked to define CAM in their own words; these responses were coded separately from those responses above to distinguish the responses that were especially pertinent to the current research. These particular definitions of CAM provided by respondents, incorporated key phrases that support studies that show *why* individuals ultimately choose to use CAM in the first place. These definitions provided by respondents were more representative of studies that showed *why* CAM had been used by patients, rather than how CAM was literally *defined*. For instance, respondents defined CAM as, "methods of care that are sought after an initial attempt does not work," or "an alternative if western medicine isn't working efficiently," which correlates with what Mary Ruggie (2004) writes in *Marginal to Mainstream Alternative Medicine in America* about why people turn to CAM. Ruggie (2004) claims that individuals who go to alternative practitioners often have chronic physical illnesses, or conditions conventional medicine had failed to treat. According to Ruggie (2004), those who seek out CAM therapies are those who have often lost hope in conventional methods, which was clearly identified by these respondents in their own definitions of CAM.

Within these separately coded responses, other respondents also defined CAM as, "a way to better your mind and body," medicine "usually…[used to treat] more mental than physical

ailments" and "medicine…that combines physical health of a patient with the psyche." These particular definitions also correlated with studies that suggested CAM techniques were based on a belief system that defined health as a state of physical, mental and spiritual well-being (Alster 1989; Goldstein et al. 1987; Lemley 2014; Micozzi 1996; Ruggie 2004). Based on these findings it is clear that, qualitatively, the majority of respondents had a good idea of what CAM was and, often, when respondents were asked to define CAM, they provided reasons for why CAM was used as opposed to providing a coherent definition.

Another interesting trend arose from the definitions respondents provided. Among the 19 respondents who said that they did not know what CAM was, 9 of these respondents had actually used some form of CAM, typically in the form of Yoga or Massage. Thus, it was clear from these responses that these respondents obviously did not understand that the techniques they were using were defined as "Complementary and Alternative Medicine." This trend could shed light on alternate reasons why patients are not discussing CAM use with their doctors; from these results it is possible that patients may not even be aware of CAM use themselves. Thus, if doctors *are* asking the right questions, patients may still not be bringing up their CAM use because they are unaware that the modalities they are using are necessarily defined in the realms of CAM.

Question 7: Forms of Complementary and Alternative Medicine Used

The frequencies for question 7, which asked respondents to check all forms of CAM they had used, are presented in Table 3. Out of all respondents, more than three-quarters of the sample had used some form of CAM (77.5% N=155). These percentages are not representative of national averages that indicate that, in 2007, only around 40% of adults had used some form of

CAM (Barnes et al. 2007). This can possibly be explained by the fact that the current research was concentrated in a very small age group, that had a large skew of individuals of certain ages, while national studies refer to four different age groups spanning from 18-65 years of age (Barnes et al. 2007). Overwhelmingly, in this sample Yoga (58.3% N=116) and Massage (50.8% N= 101) were the most commonly used forms of CAM. Meditation (37.2% N=74), Chiropractic Manipulation (22.1% N=44), and Mindfulness Exercises (17.1% N=34) were all close seconds. These results are consistent with the results of the most recently released National Health Interview Survey (NHIS) conducted by the National Center for Complementary and Alternative Medicine (NCCAM) which indicated Massage, Yoga, Meditation, and Chiropractic Manipulation were four of the ten most common complementary health approaches among adults in 2007 (Ananth 2010).

Less than ten percent of the sample used Acupuncture, Ayurveda, Biofeedback, Energy Medicine, Guided Imagery, Homeopathy, Hypnosis, Light Therapy, Naturopathy, Reflexology, Reiki, Tai Chi, Therapeutic Touch, and Qi Gong (Table 3). Nationally, both Homeopathy and Guided Imagery fell into the top ten most common complementary health approaches among adults, which was not consistent with the results of this sample (NCCAM 2008). All forms of CAM were tried by at least one respondent in the sample.

Table 3. Frequencies of Forms of CAM Used

Variable Name	*%*	*N*
Forms of CAM Used		
Acupuncture	6.0	12
Ayurveda	3.5	7
Biofeedback	1.5	3
Chiropractic	22.1	44
Energy Medicine	2.5	5
Guided Imagery	1.0	2
Herbal Therapy	10.1	20
Homeopathy	8.0	16
Hypnosis	2.0	4
Light Therapy	7.0	14
Massage	**50.8**	101
Meditation	37.2	74
Mindfulness	17.1	34
Naturopathy	1.5	3
Reflexology	3.0	6
Reiki	3.5	7
Tai Chi	2.0	4
Therapeutic Touch	2.0	4
Qi Gong	1.5	3
Yoga	**58.3**	116
Other	1.0	2

QUESTIONS FOR CAM-USERS ONLY (Survey Questions 8-12)

Question 8: Where Respondents First Heard about CAM

Of the 155 students who had used *any* form of CAM, most of these respondents had first heard of CAM through family (49.3% N=74), friends (40.7% N=61), and the Internet (27.3% N=41) as opposed to conventional practitioners (23.3% N=35) and alternative practitioners (7.3% N=11). These results are supported by previous research that suggests that patients are more likely to use CAM if these therapies had been suggested to them, not necessarily by any sort of practitioner, but by family, friends, the Internet or other sources such as books and

journals (Caspi et al. 2004). Although in the current study, a lower percentage of respondents had heard from books and journals, which seemingly runs contrary to other studies, the important overarching finding is that more people had began using CAM from other sources such as family, friends and the Internet, rather than physicians. The complete frequencies detailing where respondents first heard about CAM are presented in Table 4. Respondents were allowed to indicate that they had first heard of CAM from more than one source, which is why percentages total greater than 100%, and total greater than the number of respondents in the sample.

Table 4. Frequencies of where respondents first heard of CAM

Variable Name	*%*	*N*
Where respondents first heard of CAM		
Alternative Practitioner	7.3	11
Physician (M.D. or D.O.)	23.3	35
Friends	**40.7**	61
Family	**49.3**	74
Internet	**27.3**	41
Books, Journals, Magazines	12.0	18
Textbook or class	14.7	22
Other	9.3	14

Note: Percentages do not add up to 100 due to respondents being permitted to choose more than one answer choice

Question 9: How Respondents Began Using CAM

Over half of CAM users started using these therapies on their own without the referral from conventional or alternative practitioners as shown in Table 5. These results support studies that emphasize some of the main reasons patients decide to use CAM in the first place: to take more responsibility for their own health and to achieve a sense of self-control and empowerment (Ruggie 2004). By beginning to use therapies on their own, these patients remove the "ultimate authority" placed on the doctor for making all of the patients' health care decisions (Caspi et al. 2004). Rather than doctors ordering and patients simply complying with these orders, patients

feel they can be more autonomous with their health-care decisions by using CAM (McCaffrey et al. 2007).

Only 25 (17.2%) students who had previously used CAM were referred by a conventional practitioner and only 10 (6.9%) were referred by an alternative practitioner. Though we can not tell from this survey, it is possible that physicians are discouraging CAM use because they are unsure about the safety and effectiveness of these treatments (Milden and Stokols 2004) or because of potential biases conventional practitioners have towards CAM, rather than the lack of education of these treatments (Barrett et al. 2004). Conventional practitioners have been shown to worry about the legitimacy of CAM, deeming conventional medicine more scientific and more generalizable than CAM, which is likely to hinder their referral of patients to these methods (Barrett et al. 2004).

Interestingly 26 (17.9%) respondents said they began using CAM from some "other" source, excluding doctors or themselves, which typically included family members or friends who had been very involved with CAM therapies (Table 5). These results, paired with the results of question 8, even further support that patients who use CAM are more likely to use these therapies if they are suggested to them or already used by outside sources including family, friends, and other close associates, rather than any sort of practitioners (Barnes et al. 2007; Caspi et al. 2004).

Table 5. Frequencies of how respondents began using CAM

Variable Name	*%*	*N*
How respondents began using CAM		
Referred by physician (M.D. or D.O.)	17.2	25
Referred by alternative medicine practitioner	6.9	10
Started using therapies on their own	**57.9**	84
Other*	17.9	26

*Other category typically included referral from family members

Question 10: How CAM was Brought Up in Interaction with Physicians

When asked about discussing CAM with their physician, more than three quarters of CAM users indicated that their CAM use was never brought up with their physicians (76.2% N=112) as shown in Table 6. These results are consistent with previous research suggesting that a large percentage of those patients who are using CAM are not disclosing this information to their physicians, which can lead to health risks and complications (Harrigan 2011; Hsu et al. 2011). These results also support that patients may not be sharing information regarding CAM usage with their providers because they are not being asked specifically about any alternative health care use, as it is apparent from these results neither patients nor their physicians were bringing up CAM use first in the majority of cases (Harrigan 2011; Ruggie 2004). In some studies, patients just assumed their practitioners had a negative attitude towards CAM *because* they did not bring it up first to their patients. Rather than risk a potential negative reply from physicians, patients chose simply not to raise this issue to physicians (Ruggie 2004).

Table 6. Frequencies of where respondents first heard of CAM

Variable Name	*%*	*N*
How CAM brought up in conversation, if at all		
Physician asked about CAM use first	15.6	23
I brought up CAM use first	8.2	12
I have not discussed CAM with my physician	**76.2**	112

Question 11&12: Comfort Discussing CAM with Physicians

When CAM users were asked how comfortable they were in asking their physicians about CAM therapies that they were receiving and that they were interested in, the median

answer was an 8.00 on a sliding scale from 1-10 for both questions, where 10 represented the highest possible comfort level patients could have when addressing these issues. These results seemingly run contrary to previous findings suggesting that patients were not disclosing information with physicians because they did not feel comfortable enough to discuss their CAM use with providers (Harrigan 2011; Hsu et al. 2011). Although it appeared that the majority of patients in this sample were not disclosing their CAM use with their physicians (Table 6) it interestingly, was *not* because these patients did not feel comfortable with their physicians as illustrated in Table 7 and Table 8. Potentially, the fact that "Trust" and "Respect" between doctors and patients were ranked among respondents as two of the top five elements essential for effective communication with physicians (Table 2), could explain why respondents' comfort levels discussing CAM with physicians were so high (Table 7, 8).

Table 7. Comfort Discussing Current CAM use with Physicians: Sliding Scale Frequencies

Variable Name	*%*	*N*
How comfortable are respondents asking physicians questions about CAM treatments they were *receiving*		
1	2.7	4
2	1.4	2
3	2.0	3
4	4.7	7
5	14.2	21
6	6.8	10
7	12.2	18
8	15.5	23
9	7.4	11
10	33.1	49
Median: 8.00		

Table 8. Comfort Discussing CAM Treatments Interested In with Physicians: Sliding Scale Frequencies

Variable Name	*%*	*N*
How comfortable are respondents asking physicians questions about CAM treatments they *are interested in*		
1	2.7	4
2	1.3	2
3	2.7	4
4	5.3	8
5	12.0	18
6	6.7	10
7	13.3	20
8	16.7	25
9	7.3	11
10	32.0	48
Median: 8.00		

QUESTIONS FOR NON-CAM USERS ONLY (Questions 13-15)

Of the 45 (22.5%) respondents who had not used any form of CAM, almost all respondents had never discussed CAM with their physicians before (97.7% N=43). Interestingly, when non-CAM users were asked how comfortable they were in asking their physicians about CAM treatments they were interested in, the median answer was a 9.00 on a sliding scale from 1-10, with 10 representing respondents who were very comfortable addressing this with their physicians. Similar to the median comfort level of CAM users, this median, too, appeared very high. These results possibly demonstrate that the reason these respondents did not use CAM *did not* have to do with discomfort they experienced with their doctors, as some studies suggested (Hsu et al. 2011; Ruggie 2004).

Providing some support for this, when these respondents were asked why they had never chosen to use CAM before in a short answer question there were several reoccurring responses: 24 respondents answered with a response similar to "I've never needed it," 7 respondents answered that they did not know what CAM was, 4 respondents answered that they had never

discussed this option with a doctor, 3 respondents answered that they had never thought to use it or that they never considered CAM as an option, and 2 respondents answered that they did not fully believe in CAM's effectiveness. Despite it being only a small percentage, the respondents who said that they had never used CAM *because* they had never discussed it with their doctors is similar to other studies (Harrigan 2011; Hsu et al. 2011). Only a very small percentage of respondents did not use CAM because they did not fully believe in its effectiveness, which some studies suggested played a much more significant role than what was apparent in the results of the current study (Barret et al. 2007; Milden and Stokols 2004). These findings could be related to the fact that the current research had a significantly lower number of respondents who had not used CAM, which may not be representative of a larger populations.

Some respondents answered why they had never used with interesting responses such as, "my family are all doctors and don't believe in many CAM treatments, but massages and certain remedies probably have a benefit" and "my parents don't really care for it, they're doctors." This response not only demonstrates what a large influence family can have for both CAM users and non-CAM users, as discussed in Caspi's et al. (2004) study, but also reflects that some non-CAM users *do* believe in the effectiveness of therapies and have simply chosen not to use CAM for other, more personal, reasons. Other interesting responses to this question included "I'm still not used to a stranger touching me," and "I've always used a primary physician for medical treatment," which also represent broader reasons that encompass why integrative medicine as a whole has not been fully accepted by all patients (Caspi et al. 2004).

It seemed that the majority of respondents who had never used CAM simply did not think it was something they *needed* to do. It is possible that these respondents were assigning CAM therapies to certain illnesses westernized medicine could not fix based on responses such

as, "I haven't had any problems which required it," "I don't really have any nagging ailments that makes it seem necessary for," and more directly "I haven't had a problem where I've needed it," which would lend support to studies that show that CAM is typically used by patients where Westernized medicine falls short (McCaffrey et al. 2007). It is also possible that they were healthy, and thus did not require *any* type of health care, mainstream or alternative. Unfortunately, the survey did not assess health status due to space constraints.

Cross Tabulations

Cross tabulations were done between each demographic factor and CAM use in order to understand which demographic factors could predict who was more likely to use CAM. These cross tabulations give a bigger picture of the trends of CAM use based on sex, religious affiliation, race and age. Although the results of such a small sample are difficult to relate to entire populations, these results could shed light on the direction of future research.

Due to the small sample size, age, race and religion were recoded. Age was recoded into two groups: 18-20 years of age and 21-24 years of age. Race was recoded into two categories: white, not Hispanic and "all others." Religion was recoded into two categories: Religious and Non-religious.

Sex Cross Tabulations

There were significant differences between men and women's CAM usage. As illustrated in Table 9, women were significantly more likely than men to have used *any* CAM modality (83.5% of women vs. 63.9% of men). This is consistent with results of the National Health Interview Surveys (NHIS) conducted by the National Center for Complementary and

Alternative Medicine (NCCAM) which indicated that, in both 2002 and 2007, CAM techniques were found to be more prevalent in treatment of women than treatment of men (Barnes et al. 2007). The full cross tabulations of sex versus all other modes of CAM are located in the Appendix; however, it is important to note that this trend remained for yoga and massage, the two most commonly used modalities. Women were slightly more likely to have used yoga (24.5% of women vs. 22.8% of men) and massage (21.3% vs. 20.2%).

Table 9. CAM Use by Sex

	Male	*Female*	*Total*
Have used	**63.9%** (39)	**83.5%** (116)	(155)
Have not used	36.1% (22)	16.5% (23)	(45)
Total	100% (61)	100% (139)	(200)

x^2=9.263, asymptotic significance =.002

Sex and where respondents first heard of CAM were also cross tabulated (Table 10). If a respondent had heard of CAM from multiple sources, each of these sources was counted. For both males and females, some respondents indicated that they first heard about CAM from multiple sources. For example, although there were only 39 males who had used CAM, males had heard from 59 different sources. Thus, although there were only 155 respondents who had indicated that they had used CAM, there were 275 answers to where respondents had first heard about CAM. Based on Table 10, it is clear that most men and women first heard about CAM through their families. This supports the most recent data compiled from the 2007 National Health Interview Survey showing that children whose parents used CAM were significantly more likely to use CAM when compared to children whose parents did not use CAM (Barnes et al. 2007). For men, hearing about CAM from family was much more common than all other

sources. For women, friends and the Internet were other commonly chosen sources of information about CAM. Interestingly, for both men and women, the least likely source of information about CAM was alternative practitioners. This supports the fact that most of the more popular modes of CAM, such as yoga and massage, do not necessarily need an alternative practitioner to be administered. Thus, patients would not necessarily need the referral of an alternative practitioner to begin using some of the more popular forms of CAM.

Table 10. Where respondents first heard about CAM by Sex

Where respondents first heard of CAM	*Male*	*Female*	*Total*
Alternative Practitioner	2	9	11
Physician	7	28	35
Friends	8	53	61
Family	**17**	**57**	74
Internet	9	32	41
Books, Journals, Magazines	4	14	18
Textbooks or Classes	9	13	22
Other	3	11	14
Total Sources of Information/ Total M/F Students	59/39	217/116	276/155

As illustrated in Table 11, one's sex could not predict how respondents began using CAM. When women were asked how they began using CAM, 56.0% said they started using therapies on their own, 20.2% said they were referred by a conventional practitioner such as an M.D. or D.O. and only 6.4% said they were referred by an alternative practitioner. For males, it appeared that 63.9% (N=23) of men said they started using CAM therapies on their own, and an equal number of men were referred by a conventional or an alternative practitioner (8.3% in both categories). Although these responses are interesting, they are not statistically significant. Simply looking at trends, however, it is apparent that the majority of both male and female respondents started using CAM therapies on their own, without being referred by any type of

physician. This can potentially be correlated with studies that suggest that *any* individuals' CAM usage, regardless of gender, is largely driven by a sense of self-control and empowerment that comes with using CAM (Ruggie 2004). Taking away the "ultimate authority" of the doctor to make all health related decisions for patients is one of the primary factors that makes individuals want to start using alternative therapies, which may explain the results of these cross tabulations (Caspi et al. 2004).

Table 11. How respondents began using CAM by Sex

How respondent began using CAM	*Male*	*Female*	*Total*
Referred by physician (M.D. or D.O.)	8.3% (3)	20.2% (22)	(25)
Referred by alternative practitioner	8.3% (3)	6.4% (7)	(10)
Started using therapies on their own	**63.9%** (23)	**56.0%** (61)	(84)
Other	19.4% (7)	17.4% (19)	(26)
Total	100% (36)	100% (109)	100% (145)

x^2=2.702, asymptotic significance =.440

As illustrated in Table 12, one's sex also did not predict if and how CAM was brought up in conversation with conventional practitioners. It appeared that 73.6% (N=81) of women responded that they had not discussed CAM with their physicians at all, 17.3% (N=19) of women responded that their physicians asked about their CAM use first, and only 9.1% (N=10) of women responded that they brought up their CAM use first. Conversely, 83.8% (N=31) of men responded that they had not discussed CAM with their physicians at all, 10.8% (N=4) responded that their physicians asked about their CAM use first, and only 5.4% (N=2) of men responded that they brought up their CAM use first. Although it appeared that the majority of

both men and women had not discussed CAM with their physicians at all, these results were not statistically significant. These trends, however, go along with the data that suggest a large percentage of CAM users do not bring CAM up with their doctors because of multiple reasons including (1) not feeling comfortable enough with the doctor (2) not being asked from the doctor directly about CAM use (3) not having similar beliefs about alternative therapies, and (4) believing the doctor will pass judgment upon the patient's request for more information on CAM (Harrigan 2011; Hsu et al. 2011; McCaffrey et al. 2007). Despite the fact that these trends cannot point to the exact reason why CAM users do not bring up CAM with their doctors, these trends are still consistent with these studies in that most CAM users do not disclose their CAM use with their conventional practitioners.

Table 12. How CAM was brought up in conversation with physician by Sex

How CAM brought up in conversation	*Male*	*Female*	*Total*
Physician asked about CAM use first	10.8% (4)	17.3% (19)	(23)
Respondent brought up CAM use first	5.4% (2)	9.1% (10)	(12)
Respondent did not discuss CAM with physician	**83.8%** (31)	**73.6%** (81)	(112)
Total	100% (37)	100% (110)	100% (147)

x^2=1.574, asymptotic significance =.455

Religion Cross Tabulations

One's religion could not predict whether a respondent will use CAM. Although there was an overwhelmingly large percentage of religious respondents who had used CAM (79.9% N=131) compared to non-religious respondents who had used CAM (65.7% N=23), these results were not statistically significant as illustrated in Table 9. The most commonly used form of

CAM for both religious respondents and non-religious respondents was Yoga. This corresponds with data showing, regardless of religion, Yoga was one of ten of the most commonly used methods of CAM among adults in 2007 (Barnes et al. 2007). The full cross tabulations between all modes of CAM and religious affiliation are located in the Appendix.

Table 13. Percent Distribution of CAM use by Religious Affiliation

Religious Affiliation	*Religious*	*Non-Religious*	*Total*
Have Used	**79.9%** (131)	**65.7%** (23)	(154)
Have Not Used	20.1% (33)	34.3% (12)	(45)
Total	100% (164)	100% (35)	100% (199)

x^2=3.307, asymptotic significance =.069

Religion and where respondents first heard of CAM was also cross tabulated (Table 14). If someone had heard of CAM from multiple sources, each of these sources was counted. For both religious and non-religious respondents, some respondents indicated that they first heard about CAM from multiple sources. For example, although there were only 164 religious respondents who had answered this question and had used CAM, however, religious respondents heard about CAM from 186 different sources. Thus, although there were only 199 religious and non-religious respondents who had indicated that they had used CAM, there were 275 answers to where these respondents had first heard about CAM.

Table 14. Where respondents first heard about CAM by Religious Affiliation

Where respondents first heard of CAM	*Religious*	*Non-Religious*	*Total*
Alternative Practitioner	10	1	11
Physician	31	3	34
Friends	**54**	7	61
Family	11	**63**	74
Internet	34	7	41
Books, Journals, Magazines	13	5	18
Textbooks or Classes	20	2	22
Other	13	1	14
Total Sources of Information/ Total R/NR Students	186/164	89/35	275/199

Based on Table 14 above, it is clear that most religious respondents first heard about CAM through their friends, and most non-religious respondents first heard about CAM through their families. For non-religious respondents, hearing about CAM from family was much more common than hearing about CAM from all other sources, including physicians. For religious respondents, conventional physicians and the Internet were other commonly chosen sources of information about CAM. For both religious and non-religious respondents, one of the least likely sources of information about CAM was alternative practitioners.

Table 15 compares how respondents began using CAM by religious affiliation, but I could not assess statistical significance because too many cells had an expected count of less than 5. Among religious respondents, 58.1% (N=72) started using CAM therapies on their own, 15.3% (N=19) said they were referred by a conventional practitioner such as an M.D. or D.O. and only 7.3% (N=9) said they were referred by an alternative practitioner, and 19.4% (N=24) said they had started using CAM from some other source. For non-religious respondents, 57.1% (N=12) said they started using therapies on their own without the referral of a practitioner, 28.6%

(N=6) said they were referred by a conventional practitioner and only 4.8% (N=1) said they were referred by an alternative practitioner. Nearly ten percent said they began using CAM from some other source. Thus, the majority of both religious and non-religious respondents started using CAM therapies on their own. These trends are similar to studies finding that, regardless of religious affiliation, individuals have started to use CAM based on their own beliefs more closely paralleling the more mental, spiritual and emotional nature of CAM, and their need for autonomy within their health-related decisions (Caspi et al. 2004; Ruggie 2004).

Table 15. How respondents began using CAM by Religious Affiliation

How respondent began using CAM	*Religious*	*Non-Religious*	*Total*
Referred by physician (M.D. or D.O.)	15.3% (19)	28.6% (6)	(25)
Referred by alternative practitioner	7.3% (9)	4.8% (1)	(10)
Started using therapies on their own	**58.1%** (72)	**57.1%** (12)	(84)
Other	19.4% (24)	9.5% (2)	(26)
Total	100% (124)	100% (21)	100% (145)

From Table 16, it is evident that an identical percentage of religious and non-religious respondents answered that they had not discussed CAM with their physicians. Similar to Table 15, I could not assess statistical significance. These results do support studies that state that the majority of CAM users are not bringing up CAM use with their physicians; however, these results do not shed light on the reasons *why* these conversations are not occurring.

Table 16. How CAM was brought up in conversation with physician by Religious Affiliation

How CAM brought up in conversation	*Religious*	*Non-Religious*	*Total*
Physician asked about CAM use first	14.3% (18)	23.8% (5)	(23)
Respondent brought up CAM use first	9.5% (12)	0.0% (0)	(12)
Respondent did not discuss CAM with physician	**76.2%** (96)	**76.2%** (16)	(112)
Total	100% (126)	100% (21)	100% (147)

Race Cross Tabulations

One's race could also not predict whether a respondent would use CAM. Although there was a relatively equal percentage of white, not Hispanic respondents who had used CAM (77.0% N=114) compared to respondents of all other races who had used CAM (78.8% N=41), these results were not statistically significant as illustrated in Table 17. The most recent data from NHIS administered by NCCAM showed that the two most prevalent races who used all forms of CAM were Non-Hispanic American Indian or Alaska Native (50.3%) and Non-Hispanic or white (43.1%) (Barnes et al. 2007). In this study, the most commonly used form of CAM for both white, not Hispanic respondents and respondents of all other races was again Yoga; This supports that, regardless of race, Yoga was one of the top ten modes of CAM used by adults in 2007 (Barnes et al. 2007).

It is important to note that this sample is overwhelmingly composed of non-Hispanic whites, yet there were various forms of CAM used much more frequently by respondents of all other races. Ayurveda (5.4% vs. .3%), Guided Imagery (.9% vs. .3%), Homeopathy (5.4% vs. 2.7%), Meditation (18.9% vs. 14.3%), Mindfulness (9.0% vs. 6.5%) and Tai Chi (1.8% vs. .5%), were all forms of CAM used much more by respondents of all other races, than white, not Hispanic respondents. These trends could be explained by the fact that some of these forms of

CAM are routed in certain cultures that certain races and ethnicities might identify with. For example, Ayurvedic medicine was developed in different time periods in India over the course of thousands of years (Mukherjee and Wahile 2005). The full cross tabulations between all modes of CAM and race are located in the Appendix.

Table 17. CAM Use by Race

	White, not Hispanic	*All Other Races*	*Total*
Have used	**77.0%** (114)	**78.8%** (41)	(155)
Have not used	23.0% (34)	21.2% (11)	(45)
Total	100% (148)	100% (52)	(200)

x^2=.073, asymptotic significance =.787

Race and where respondents first heard of CAM were also cross tabulated (Table 18). If respondents had heard of CAM from multiple sources, each of these sources was counted. For both groups, some respondents indicated that they first heard about CAM from multiple sources. For example, although there were only 148 white, not Hispanic respondents, who had answered this question and had used CAM, white, not Hispanic respondents heard about CAM from 211 different sources. Although there were only 200 white, not Hispanic respondents and respondents from all other races, there were 357 answers to where these respondents first heard about CAM.

Table 18. Where respondents first heard about CAM by Race

Where respondents first heard of CAM	*White, not Hispanic (WNH)*	*All Other Races (AOR)*	*Total*
Alternative Practitioner	9	2	11
Physician	29	6	35
Friends	46	15	61
Family	**53**	**21**	74
Internet	32	9	41
Books, Journals, Magazines	13	5	18
Textbooks or Classes	17	5	22
Other	12	2	14
Total Sources of Information/ Total WNH/AOR Students	211/148	146/52	357/200

Based on this table, it is clear that both white, not Hispanic respondents and respondents from all other races first heard bout CAM from their families, which is consistent with existing sources (Caspi et al. 2004). For respondents of all other races, hearing about CAM from family was much more common than hearing about CAM from all other sources, including any sort of physician. For white, not Hispanic respondents, friends, the Internet and conventional physicians were other commonly chosen sources of information about CAM. For both white, not Hispanic respondents and respondents of all other races, one of the least likely sources of information about CAM was alternative practitioners. Again, this corresponds with the fact that some of the most popular forms of CAM, such as yoga and massage, do not necessarily require an alternative practitioner to administer them.

As illustrated in Table 19, one's race could not predict how they began using CAM. When white, not Hispanic respondents were asked how they began using CAM, over half started using CAM therapies on their own. Interestingly, 16.8% (N=18) of white, not Hispanic respondents were referred by a conventional practitioner, and only 8.4% (N=9) were referred by

an alternative practitioner. For respondents of all other races, 60.5% (N=23) said they started using CAM therapies on their own, 18.4% (N=7) said they were referred by a conventional practitioner and only 2.6% (N=1) said they were referred by an alternative practitioner. Another 18.4% (N=7) of respondents of all other races said they began using CAM from some other source.

Although it appeared that the majority of both white, not Hispanic respondents and respondents of all other races started using CAM therapies on their own, without being referred by any type of physician, these results were not statistically significant. This trend however support the data that show that, regardless of race, the majority of CAM users are beginning to use CAM on their own. Though this study does not ask about the reason, it could be similar to other studies where respondents desire to take more responsibility for their own health, to achieve a sense of self-control and empowerment of their own health-related decision, and to reject the "ultimate authority" of the doctor that is so typically found in conventional medicine (Caspi et al. 2004; Ruggie 2004).

Table 19. How respondents began using CAM by Race

How respondent began using CAM	*White, not Hispanic*	*All Other Races*	*Total*
Referred by physician (M.D. or D.O.)	16.8% (18)	18.4% (7)	(26)
Referred by alternative practitioner	8.4% (9)	2.6% (1)	(10)
Started using therapies on their own	**57.0%** (61)	**60.5%** (23)	(84)
Other	17.8% (19)	18.4% (7)	(26)
Total	100% (107)	100% (38)	100% (145)

x^2=1.467, asymptotic significance =.690

From Table 20, it is evident that race also could not predict if and how CAM was brought up in interactions with conventional practitioners. Although it appears that 74.1% (N=80) of white, not Hispanic respondents and 82.1% (N=32) of respondents of all other races answered that they had not discussed CAM with their physicians, these results were not statistically significant. These results support studies that show that in the majority of cases, regardless of race, CAM is not being brought up in conversations with physicians as neither doctors nor patients are initiating these conversations (Corbin Winslow and Shapiro 2002).

Table 20. How CAM was brought up in conversation with physician by Race

How CAM brought up in conversation	*White, not Hispanic*	*All Other Races*	*Total*
Physician asked about CAM use first	15.7 (17)	15.4 (6)	(23)
Respondent brought up CAM use first	10.2 (11)	2.6 (1)	(12)
Respondent did not discuss CAM with physician	**74.1** (80)	**82.1** (32)	(112)
Total	100% (126)	100% (21)	100% (147)

x^2=2.280, asymptotic significance =.320

Age Cross Tabulations

While it appears that CAM use was relatively equal among age groups, 76.2% (N=115) for 18-20 year olds, and 81.6% (N=40) for 21-24 year olds, there was a large percentage of respondents who were 19 (25.4% N=51) and 20 (41.8% N=84) years of age (Table 21). These findings are consistent with studies that show, nationally, CAM use is more likely in older adults than younger adults (Barnes et al. 2007). However, when comparing the findings from the current research to the most updated national averages, the skew of the current dataset must be heavily considered. The full cross tabulations of age group versus all other modes of CAM are located in the Appendix; however, the most popular CAM modality for 18-20 year olds was

Yoga (26.0% N=86) and the most popular CAM modality for 21-24 year olds was split between Yoga and Massage, the two most commonly used modalities (19.9% N=30). These trends also mirror the results of the NHIS administered by the NCCAM that showed Yoga and Massage were two of the top ten CAM modalities used by adults in 2007 (Barnes et al. 2007).

Table 21. CAM Use by Age

	18-20 years old	*21-24 years old*	*Total*
Have used	**76.2%** (115)	**81.6%** (40)	(155)
Have not used	23.8% (36)	18.4% (9)	(45)
Total	100% (151)	100% (49)	(200)

Age and where respondents first heard of CAM were also cross tabulated (Table 22). If a respondent had heard of CAM from multiple sources, each of these sources was counted. For both age groups, some respondents indicated that they first heard about CAM from multiple sources. For example, although there were 151, 18-20 year olds who had used some form of CAM, there were 204 answers to where respondents had first heard about CAM. Thus, although there were only 200 respondents of all age groups, there were 276 answers to where respondents first heard of CAM. Based on Table 22, it is clear that 18-20 year olds most commonly heard about CAM from family, friends, and the Internet, whereas most 21-24 year olds heard about CAM from family, friends, and conventional physicians. For the older age group, this runs contrary to studies that show the common source of information on CAM is typically family and friends (Barnes et al. 2007; Caspi et al. 2004). This finding could potentially point to the fact that older individuals, those in the 21-24 year range, are more likely to share information with their physicians than those in the 18-20 year range.

Table 22. Where respondents first heard about CAM by Age

Where respondents first heard of CAM	*18-20 years old*	*21-24 years old*	*Total*
Alternative Practitioner	4	7	11
Physician	23	12	35
Friends	48	13	61
Family	**56**	**18**	74
Internet	33	8	41
Books, Journals, Magazines	14	4	18
Textbooks or Classes	17	5	22
Other	9	5	14
Total Sources of Information/ Total 18-20/21-24 Students	204/151	72/49	276/200

As illustrated in Table 23, when 18-20 year olds were asked how they began using CAM, 59.6% (N=65) of 18-20 year olds said that they started using therapies on their own, 15.6% said they were referred by a conventional practitioner and only 8.3% said they were referred by an alternative practitioner. For 21-24 year olds, 52.8% (N=19) said that they started using therapies on their own, 22.2% (N=8) said they were referred by a conventional practitioner, and only 2.8% (N=1) said they were referred by an alternative practitioner. The majority of respondents from both age groups, started using CAM therapies on their own, without being referred by any type of physician, which is consistent with prior studies (Caspi et al. 2004; Ruggie 2004). The lowest percentage of respondents, for both age groups, were those referred by alternative practitioners.

Table 23. How respondents began using CAM by Age

How respondent began using CAM	*18-20 years old*	*21-24 years old*	*Total*
Referred by physician (M.D. or D.O.)	15.6% (17)	22.2% (8)	(25)
Referred by alternative practitioner	8.3% (9)	2.8% (1)	(10)
Started using therapies on their own	**59.6%** (65)	**52.8%** (19)	(84)
Other	16.5% (18)	22.2% (8)	(26)
Total	100% (109)	100% (36)	100% (145)

When looking at how and if CAM was brought up in conversation with physicians, the majority of 18-20 year olds had never spoken about CAM with their physicians at all (Table 24). The same trend appeared for the 21-24 year old group.

Table 24. How CAM was brought up in conversation with physician by Age

How CAM brought up in conversation	*18-20 year olds*	*21-24 year olds*	*Total*
Physician asked about CAM use first	14.4% (16)	19.4% (7)	(23)
Respondent brought up CAM use first	6.3% (7)	13.9% (5)	(12)
Respondent did not discuss CAM with physician	**79.3%** (88)	**66.7%** (24)	(112)
Total	100% (111)	100% (36)	100% (147)

Conclusions of Cross Tabulations

Although the statistical significance could not be determined for some demographic variables, it is important to note pertinent trends that remained *the same* across all demographic variables. For instance, across all demographic variables, family and friends were some of the most common sources of information regarding CAM. Additionally, across all demographic

variables, there were an overwhelming percentage of respondents who had said they started using CAM therapies on their own, without being referred by either a conventional or alternative practitioner. Finally, across all demographic variables, there was an overwhelming majority of respondents who had never brought up their own CAM use with their physicians. Regardless of the significance across demographics, it is important to pay attention to these general trends in order to completely assess the problem and more importantly devise the most valid solution.

CHAPTER FOUR: CONCLUSIONS

The introduction of CAM in the United States has led to increased usage of these modalities alongside conventional medicine. However, because the increased use of CAM is so recent, concrete evidence supporting the efficacy of these forms of healthcare is severely lacking leading to challenges when it comes to total acceptance and complete integration of these modalities from both physicians and patients alike. One of the biggest barriers preventing the complete acceptance of CAM in the field of health care, is the lack of communication between doctors and patients about this topic. Above all, this research was designed to understand what components of doctor-patient communication led to highest patient satisfaction, and how this could be applied to the challenges of doctor-patient communication within the context of CAM.

Findings

The major findings of this research could be used to shed light on how to improve doctor-patient communication in light of growing CAM usage. First, it was found that people strongly ranked "Trust," "Respect" and the ability of the doctor to address the "chief complaint," as the most essential components when effectively communicating with their doctors. This was supported from the literature showing that patients who more strongly trusted and respected their allopathic providers were more confident in the treatment plans they chose to pursue. Second, it was found that most individuals first heard about CAM through friends and family, rather than any sort of alternative or conventional practitioner, which also coincided closely with previous studies regarding when patients were most likely to use CAM. Third, it was found that the majority of respondents who were using some form of CAM (1) began using these forms of CAM on their own and (2) had not brought their CAM use up with their health care providers,

which suggested that, by choosing to use CAM therapies, patients were gaining some form of autonomy in their health decisions, which was also expected from previous studies. Fourth, and most interestingly, it was found that both CAM users and non-CAM users were incredibly comfortable discussing their current or potential CAM use with their physicians. This strongly contrasted with existing studies that stressed the severe *discomfort* patients had when bringing up alternative medicine with their doctors, in fear of being judged or addressed with negativity from someone they addressed with such authority. Thus, from this finding it can be concluded that patients were not discussing CAM use with physicians, *not* because they did not feel comfortable with physicians, but rather for a different reason. This "different reason" may be illuminated when discussing the fifth finding; a good portion of respondents had no idea that they were actually even using a technique, such as Yoga or Massage, that could be defined as CAM. Therefore, it is possible that some CAM users were not entirely aware of their CAM use, and thus, if doctors *did* ask about their CAM use they would not know to bring it up in conversation. Finally, it was found that the reasons respondents were not using CAM was not because they did not believe in the effectiveness or the reliability of CAM, rather that these respondents did not feel they *needed* to use these modalities—as if there are only certain illnesses these modalities can treat, such as the chronic pain or terminal illness, illnesses Westernized medicine often cannot fix with conventional techniques.

Implications

After analyzing these findings it is clear that there is a lot to still be learned about CAM in order to effectively communicate about it. However, simply from looking at patients' responses, it is evident that *both* doctors and patients play a part and have a responsibility in

opening up the conversations and breaking down the barriers preventing effective communication from happening. Doctors need to not only create a space where patients feel comfortable discussing their alternative health care decisions, but doctors must also, and more importantly, begin *asking* patients about their CAM use. Based on this research it is evident that, regardless of doctors' personal opinions of CAM, a majority of their patient population is most likely using some form of alternative medicine. This was especially evident in the current research that showed that a large percentage of a younger and thus, one would assume a healthier population, was widely utilizing CAM. This indicated, and supported studies that showed, that CAM is not only used to treat sickness after it has already occurred, but is also used as a preventative mode of health care, which may explain why a younger and healthier population is more inclined to use CAM (Barnes et al. 2007). Because individuals are using CAM as a more preventative health care technique, this may contribute to the large percentage of the population who are CAM users. If doctors do not start asking patients about their CAM use, patients are at higher risk for potential interactions, which could interfere with the effectiveness of other, prescribed conventional forms of treatment. It is ultimately the doctors' responsibility to put their personal opinions aside and care for their patient's health in a trusting, respectful manner by initiating these conversations and asking the essential questions about patients' CAM usage, especially given that such a large portion of the population is actually using these modalities.

However, patients, too, have a responsibility in effectively communicating with their doctors. Patients must be knowledgeable about the alternative forms of health care they are using in order to respond appropriately when their practitioners ask them specific questions pertaining to "alternative" health care use. Studies have shown that patients generally assume they will be judged based on negative connotations and biases of conventional practitioners and, thus, are

uncomfortable bringing these topics up in conversation. Based on the current research, however, it is clear that patient discomfort may play less of a role than initially assumed. Based on the current research, it is much more likely that patients are unaware that the techniques they are using are actually considered alternative. In addition to being unaware they are using CAM, patients may also be assuming that their doctors will initiate these conversations first, based on the level of authority patients typically give doctors in health-related decision making. Thus, this presents an even more pressing reason why patients should get educated, so that when doctors *do* ask about alternative modes of health care, patients, who are clearly comfortable with their doctors, will have no problem speaking about their use of these alternative modalities.

Solutions

This research implies that both doctors *and* patients need to get educated about CAM; *both* parties hold responsibility in effectively communicating with one another. Doctors must, first, recognize their role in initiating these conversations. Based on personal biases and beliefs individual doctors may have, this should be enforced by a larger, more substantial, association such as the American Medical Association (AMA). A national and well-known agency such as the AMA, which doctors normally turn to for other important health-related news and updates, may provide a more legitimate source of information and essentially make doctors realize how many patients are actually using CAM without doctors knowing. Other professional associations such as the American Academy for Physicians Assistants (AAPA) have actually provided a worded question for physicians assistants to use to address patient's potential use of alternative medicine. This question provided by the AAPA is generally phrased as follows: "Are there any other treatments or approaches you'd like to know about or are using, or would like to use?"

(Jarski 2001). Based on the findings of the current research, it is evident that if the AMA were to provide doctors with a potential question, this question may have to be much more explicit than the question the AAPA provided. For example, the AMA could provide doctors with a way to ease into a conversation about alternative medicine using much more explicit words in terms of the most commonly known and used forms of CAM: "Are there any alternative or non-conventional treatments, such as yoga or massage, that you are using, or would like to use, that you would like more information on? I would be happy to discuss these alternative treatments with you." This not only shows that doctors would like more information on alternative treatments that patients are using, but this also makes the patients aware that the doctor is creating a comfortable atmosphere to address these topics.

In addition to providing a worded question doctors can use to initiate these conversations with patients, I believe the AMA has a role in providing doctors and aspiring doctors with the essential tools to become knowledgeable about CAM. The AMA should provide doctors with Continuing Medical Education (CME) in the form of electronic, accessible, and user-friendly programs doctors can access to be current and knowledgeable about the most recent findings and updates regarding the rise of integrative health care. These programs should not be optional, but should become a part of standard CME protocol for practicing physicians. The AMA should also enforce education about CAM in medical school. Introducing CAM as part of the required curriculum for medical students, may legitimize the integrative health care movement and relieve potential biases early on in the careers of aspiring physicians. These medical students will not only go into the medical field with knowledge about CAM modalities, but also with knowledge on how to approach and address CAM in their relationships with patients by receiving this education early in their medical career.

In addition, the AMA paired with the National Center for Complementary and Integrative Health (NCCIH), on a more informal level, has a role in providing doctors with fact sheets and posters that could be displayed in individual doctors' offices. This would not only allow patients to see that their physicians are open to the use of CAM, but this would also inform patients that the modalities that they are using are considered as CAM. This also takes the pressure off doctors to create these posters and fact sheets, themselves, and provides an effortless, cost-effective, and time-efficient way for doctors to provide patients with the information they need.

This illuminates the second conclusive point, that patients, too, have a responsibility in effectively communicating about CAM with their doctors. This current research demonstrates that even if 100% of doctors are asking the right questions and initiating these conversations, patients may not be answering these questions correctly given that they are unaware that the modalities they are using even fit into the realm of alternative medicine. The National Center for Complementary and Integrative Health (NCCIH) paired with the National Institutes of Health (NIH) has a role in providing the general public with an outlet to learn more information about CAM. Patients should be able to refer to nationally run websites such as NIH and NCCIH and easily find a conclusive list of therapies that are considered CAM, as well as a one-page fact summary about the most current updates in integrative health care. The general public should also be able to easily find a one-page summary detailing the most effective ways to communicate with doctors about CAM. Currently, the NIH presents a link to an extensive article providing a way to learn about "Talking to your doctor" in conventional medicine but provides very limited guidelines for talking to doctors in the context of CAM. The NCCIH currently provides a small section entitled "Tips for talking to your health care providers," within a larger page entitled "Tell your health care provider about your use of Complementary Health Practices." One of the

four short tips provided in this small section is, "Don't wait for your providers to ask. Be proactive." However, this one line is not enough to show patients that they also need to be *informed* of the modalities they are using in order to ask the appropriate questions. A one-page summary, similar to the one provided by the NIH about talking to doctors in the context conventional medicine, should be provided for CAM-users. Patients should also be kept aware that this is a transition period for *both* doctors and patients; doctors are still working to figure out how to include integrative health care and CAM terminology in their discourse. To aid this transition period, patients, should also be provided with a worded-question to ask doctors, in addition to a longer summary about effective communication, in case doctors are still not initiating these conversations after specific guidelines are put in place. This education could also be provided in other venues such as magazines and television for those patients who may not have constant and reliable Internet access.

By breaking down these barriers and placing the responsibility on both doctors *and* patients, this may open up the realm of effective communication from both ends and lead to a more fully accepted and expanded field of integrative medicine.

Limitations

The results of this study should be interpreted while keeping some apparent limitations in mind. Knowing that I would be physically administering my survey to multiple classes and, in doing so, would be taking up professors' designated class time, I wanted to keep my survey limited to one page, front and back. Out of courtesy to the professors who allowed me to come into their classes, I wanted to keep the survey as concise as possible so that it would take less than 10 minutes to complete by each of the respondents. Thus, some questions that I had

originally wanted to include, such as the medical conditions respondents used CAM for and other open-ended questions about comfort levels with doctors, simply could not fit on the survey.

In terms of questions on the survey, another limitation of this research was that the 1-10 sliding scale questions that were modified from previous studies, were meant to be asked in a series of either 5 or 10 questions rather than 1-2 questions, so the resulting "score" of these questions could be averaged. Because in the current research I was attempting to conserve space, I picked the two most pertinent questions to my own research, which made analyzing the "score" more challenging than in the original studies. Also, because of time and space constraints, I was only able to ask non-CAM users a total of three additional questions about why they chose not to use CAM, whereas CAM users were asked a total of five additional questions about why they had chosen CAM. Had I presented my survey in a different medium, such as an electronic version or in the form of face-to-face interviews, I believe I could have included all of the questions I had wanted and may have been able to direct interviews in different directions based on their responses; Had I administered an electronic survey, however, I do not think I would have had such a high response rate, which was crucial for my analysis. Additionally, had I administered face-to-face interviews I do not think my findings would be as conclusive. I think *because* this research included a quantitative analysis of the findings, relationships between variables were easier to see as opposed to analyzing fewer interview responses, qualitatively.

Additionally, another important limitation of this research was that it solely focused on the patients' perspective, which was, then, used to deduce that doctors also played a part in effective communication. It would be interesting to have an analysis of both the viewpoints of doctors and their patients; however, due to time constraints and the fact that doctors are typically less accessible given their busy schedules, this appeared to be another limitation of this study.

Lastly, the final and seemingly most significant limitation of the current research, is that all data were collected solely in an undergraduate setting. This makes generalizing the results to larger populations, especially in terms of demographic variables, much more difficult. The sample was also relatively skewed in terms of gender, race, religion and age in terms of one group being much larger than all other groups within each variable.

Future Research

This study was one of few studies that analyzed the components of doctor-patient communication in the context of CAM by looking at the components of doctor-patient communication in the context of conventional medicine. Thus, first and foremost, more studies analyzing those beliefs and motives of CAM users, comparatively, with the elements that lead to effective communication with conventional physicians should be analyzed. Additionally, these future studies should use larger and more diverse samples than those presented at a small, undergraduate institution, so they are able to generalize to larger populations. It would be interesting to see how demographic trends of CAM use vary in a larger, more diverse sample.

In future research, it would also be interesting to see if respondent's answers to the modes of CAM they had used would be the same if respondents were asked to list the modes of CAM they used, rather than check them off. I believe the notion that some respondents had no idea the methods they were using fit into the realm of CAM, is something that should be greatly considered and expanded upon in future research.

Future research should also hone in on other reasons why CAM users are not discussing CAM with their doctors, other than potential discomfort discussing these topics with conventional physicians. As it is evident that discomfort largely *did not* play a role in this current

study, it would be interesting to understand what CAM users perceived as other barriers when talking about CAM use with their conventional physicians. Future research should also analyze components of effective communication from both the doctors' and patients' perspectives, in order to further understand the roles each play in a successful doctor-patient relationship, in the context of CAM.

Overall, the field of integrative medicine is a relatively new field that has only just started being recognized and utilized in the past few decades. Thus, there are many directions future research may head; however, based on this research it is evident that understanding doctor-patient communication in the context of CAM may serve as a significant foundational step required for the total acceptance and complete integration of CAM in the decades to come.

Appendix

Survey on Doctor-Patient Communication and Complementary and Alternative Medicine

Directions: Please complete this survey to the best of your ability.

1. **Age:** _____

2. **Sex: (Circle)** Male Female

3. **Race or Ethnicity: (Check all that apply)**
   - ❑ White, not Hispanic
   - ❑ Black
   - ❑ Asian or Pacific Islander
   - ❑ Native American
   - ❑ Hispanic
   - ❑ Other (specify): _____

4. **Religious affiliation: (Check preference)**
   - ❑ Catholic
   - ❑ Protestant
   - ❑ Jewish
   - ❑ Muslim
   - ❑ Buddhist
   - ❑ Hindu
   - ❑ None
   - ❑ Other (specify): _____

5. **What do you believe are the *most* important elements to *effectively communicate* with your doctor? (Select at least five in rank order from 1 (most important) to 5 (least important))**

____ Trust
____ Respect
____ Open-Mindedness
____ Similar belief system
____ Understandable language/medical terminology used
____ Length of time you have known physician
____ Length of time you spend with physician at individual appointments
____ Ability of the physician to address chief complaint
____ Written summary of care plan

6. **Briefly define "Complementary and Alternative Medicine (CAM)" in your own words:**

_____
_____
_____
_____

7. **Which forms of Complementary and Alternative Medicine (CAM) have you used (Check all that apply)?**
   - ❑ Acupuncture
   - ❑ Ayurveda
   - ❑ Biofeedback
   - ❑ Chiropractic Manipulation
   - ❑ Energy Medicine
   - ❑ Guided Imagery
   - ❑ Herbal Therapy
   - ❑ Homeopathy
   - ❑ Hypnosis
   - ❑ Light Therapy
   - ❑ Massage
   - ❑ Meditation
   - ❑ Mindfulness Exercises
   - ❑ Naturopathy
   - ❑ Reflexology
   - ❑ Reiki
   - ❑ Tai Chi
   - ❑ Therapeutic Touch
   - ❑ Qi Gong
   - ❑ Yoga
   - ❑ Other (specify): _____ _____ _____
   - ❑ **None (SKIP TO QUESTION 13)**

8. **Where did you first hear about Complementary and Alternative Medicine (CAM) (Check all that apply)?**

- ❑ Alternative Practitioner
- ❑ Physician (M.D. or D.O.)
- ❑ Friends
- ❑ Family
- ❑ Internet
- ❑ Books, Journals, Magazines
- ❑ Textbook or class
- ❑ Other (specify): _____

9. **How did you begin *using* CAM? (Check all that apply)**

- ❑ Referred to by physician (M.D. or D.O.)
- ❑ Referred to by alternative medicine practitioner
- ❑ Started using therapies on my own
- ❑ Other: _____

10. **How was CAM brought up in your interaction with your physician, if at all?**

- ❑ Physician asked about CAM use first
- ❑ I brought up CAM use first
- ❑ I have not discussed CAM with my physician
- ❑ Other: _____

11. **How comfortable are you in asking your physician questions about Complementary and Alternative Medicine (CAM) treatments you are receiving (Circle number)?**

1 2 3 4 5 6 7 8 9 10
Not comfortable at all Very comfortable

12. **How comfortable are you in asking your physician about new Complementary and Alternative Medicine (CAM) treatments you are interested in (Circle number)?**

1 2 3 4 5 6 7 8 9 10
Not comfortable at all Very comfortable

IF YOU HAVE NOT TRIED COMPLEMENTARY AND ALTERNATIVE MEDICINE

13. **Has your physician ever discussed CAM with you before?**

- ❑ No
- ❑ If yes, please explain for what: _____

14. **Why have you chosen not to use CAM?**

_____
_____
_____

15. **If you wanted more information, how comfortable would you be talking about CAM with your doctor?**

1 2 3 4 5 6 7 8 9 10
Not comfortable at all Very comfortable

Frequencies of All Chosen Elements of Effective Doctor-Patient Communication

Variable Name	*%*	*N*
Trust		
1	**60.0**	105
2	20.6	36
3	10.9	19
4	4.6	8
5	4.0	7
Respect		
1	17.2	27
2	**35.0**	55
3	24.2	38
4	15.3	24
5	7.6	12
Open Mindedness		
1	14.9	15
2	13.9	14
3	17.8	18
4	**26.7**	27
5	24.8	25
Similar Beliefs		
1	2.6	1
2	10.3	4
3	15.4	6
4	20.5	8
5	**33.3**	13
Understandable language used		
1	9.5	12
2	17.5	22
3	**24.6**	31
4	24.6	31
5	22.2	28
Length of time known physician		
1	3.9	4
2	16.7	17
3	**24.5**	25
4	26.5	27
5	21.6	22
Length of time spent with physician at appointments		
1	5.7	5
2	9.2	8
3	18.4	16
4	**31.0**	27
5	**31.0**	27
Chief complaint addressed		
1	19.7	27
2	17.5	24
3	**21.2**	29
4	19.0	26
5	21.2	29
Written summary of care plan		
1	5.3	2
2	10.5	4
3	13.2	5
4	10.5	4
5	**44.7**	17

Full Cross Tabulation of All Modes of CAM and Sex

	Male	*Female*	*Total*
Acupuncture	7.9% (9)	.8% (3)	(12)
Ayurveda	1.8% (2)	1.4% (5)	(7)
Biofeedback	0.0% (0)	.8% (3)	(3)
Chiropractic	8.8% (10)	9.3% (34)	(44)
Energy Medicine	.9% (1)	1.1% (4)	(5)
Guided Imagery	0.0% (0)	.5% (2)	(2)
Herbal Therapy	3.5% (4)	4.4% (16)	(20)
Homeopathy	1.8% (2)	3.8% (14)	(16)
Hypnosis	.9% (1)	.8% (3)	(4)
Light Therapy	1.8% (2)	3.3% (12)	(14)
Massage	20.2% (23)	21.3% (78)	(101)
Meditation	16.7% (19)	15.0% (55)	(74)
Mindfulness	7.9% (9)	6.8% (25)	(34)
Naturopathy	.9% (1)	.5% (2)	(3)
Reflexology	0.0% (0)	1.6% (6)	(6)
Reiki	0.0% (0)	1.9% (7)	(7)
Tai Chi	1.8% (2)	.5% (2)	(4)
Therapeutic Touch	.9% (1)	.8% (3)	(4)
Qi Gong	.9% (1)	.5% (2)	(3)
Yoga	22.8% (26)	24.5% (90)	(116)
Other	.9% (1)	.3% (1)	(2)
Total	100%* (114)	100%* (367)	(481)

**Due to rounding, percentages may not add to exactly 100% [2 missing cases]*

Full Cross Tabulations of All Modes of CAM and Religion

	Religious	*Non-Religious*	*Total*
Acupuncture	2.7% (11)	1.4% (1)	(12)
Ayurveda	1.7% (7)	0.0% (0)	(7)
Biofeedback	.7% (3)	0.0% (0)	(3)
Chiropractic	8.4% (34)	13.5% (10)	(44)
Energy Medicine	1.0% (4)	1.4% (1)	(5)
Guided Imagery	.5% (2)	0.0% (0)	(2)
Herbal Therapy	4.5% (18)	2.7% (2)	(20)
Homeopathy	4.0% (16)	0.0% (0)	(16)
Hypnosis	.7% (3)	1.4% (1)	(4)
Light Therapy	3.0% (12)	2.7% (2)	(14)
Massage	21.8% (88)	17.6% (13)	(101)
Meditation	15.3% (62)	15.0% (11)	(73)
Mindfulness	6.9% (28)	6.8% (5)	(33)
Naturopathy	.7% (3)	0.0% (0)	(3)
Reflexology	0.0% (0)	8.1% (6)	(6)
Reiki	1.2% (5)	2.7% (2)	(7)
Tai Chi	.2% (1)	4.1% (3)	(4)
Therapeutic Touch	.7% (3)	1.4% (1)	(4)
Qi Gong	.7% (3)	0.0% (0)	(3)
Yoga	24.5% (99)	21.6% (16)	(115)
Other	.5% (2)	0.0% (0)	(2)
Total	100%* (404)	100%* (74)	(478)

**Due to rounding, percentages may not add to exactly 100% [3 missing cases]*

Full Cross Tabulations of All Modes of CAM and Race

	White, not Hispanic	*All Other Races*	*Total*
Acupuncture	2.7% (10)	1.8% (2)	(12)
Ayurveda	.3% (1)	5.4% (6)	(7)
Biofeedback	.8% (3)	0.0% (0)	(3)
Chiropractic	10.5% (39)	4.5% (5)	(44)
Energy Medicine	1.4% (5)	0.0% (0)	(5)
Guided Imagery	.3% (1)	.9% (1)	(2)
Herbal Therapy	4.6% (17)	2.7% (3)	(20)
Homeopathy	2.7% (10)	5.4% (6)	(16)
Hypnosis	1.1% (4)	0.0% (0)	(4)
Light Therapy	3.0% (11)	2.7% (3)	(14)
Massage	21.6% (80)	18.9% (21)	(101)
Meditation	14.3% (53)	18.9% (21)	(74)
Mindfulness	6.5% (24)	9.0% (10)	(34)
Naturopathy	.8% (3)	0.0% (0)	(3)
Reflexology	1.4% (5)	.9% (1)	(6)
Reiki	1.9% (7)	0.0% (0)	(7)
Tai Chi	.5% (2)	1.8% (2)	(4)
Therapeutic Touch	.8% (3)	.9% (1)	(4)
Qi Gong	.8% (3)	0.0% (0)	(3)
Yoga	23.8% (88)	25.2% (28)	(116)
Other	.3% (1)	.9% (1)	(2)
Total	100%* (370)	100%* (111)	(481)

**Due to rounding, percentages may not add to exactly 100% [2 missing cases]*

Full Cross Tabulations of All Modes of CAM and Age

	18-20 year olds	*21-24 year olds*	*Total*
Acupuncture	2.4% (8)	2.6% (4)	(12)
Ayurveda	1.5% (5)	1.3% (2)	(7)
Biofeedback	.9% (3)	0.0% (0)	(3)
Chiropractic	8.8% (29)	9.9% (15)	(44)
Energy Medicine	.6% (2)	2.0% (3)	(5)
Guided Imagery	0.0% (0)	1.3% (2)	(2)
Herbal Therapy	3.6% (12)	5.3% (8)	(20)
Homeopathy	2.4% (8)	5.3% (8)	(16)
Hypnosis	.9% (3)	0.6% (1)	(4)
Light Therapy	1.8% (6)	5.3% (8)	(14)
Massage	21.5% (71)	19.9% (30)	(101)
Meditation	17.6% (58)	10.6% (16)	(74)
Mindfulness	7.6% (25)	6.0% (9)	(34)
Naturopathy	.3% (1)	1.3% (2)	(3)
Reflexology	.9% (3)	2.0% (3)	(6)
Reiki	1.2% (4)	2.0% (3)	(7)
Tai Chi	.6% (2)	1.3% (2)	(4)
Therapeutic Touch	.3% (1)	2.0% (3)	(4)
Qi Gong	.6% (2)	0.6% (1)	(3)
Yoga	26.0% (86)	19.9% (30)	(116)
Other	.3% (1)	.6% (1)	(2)
Total	100%* (330)	100%* (151)	(481)

**Due to rounding, percentages may not add to exactly 100% [2 missing cases]*

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