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The Search for Health Information on The Internet: Perceptions of Patient Medical Communication Competence During The Medical Appointment

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THE SEARCH FOR HEALTH INFORMATION ON THE INTERNET: PERCEPTIONS OF

PATIENT MEDICAL COMMUNICATION COMPETENCE DURING

THE MEDICAL APPOINTMENT

A Thesis

by

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ABSTRACT

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The Internet is an influential contrivance that has the potential to improve healthcare information dispersion, healthcare delivery and patient outcomes. Specifically, patient preparation prior to the medical appointment, such as seeking information about his/ her health situation on the Internet, has been linked to competent medical communication behaviors. As such, the Internet can potentially be used to introduce educational health materials that will help the patient prepare for the medical appointment. But, it is important to first determine Internet usage rates among the study population and assess patient and physician perceptions of the degree to which access to health information on the Internet affects patient medical communication competence behaviors. Therefore, the purpose of this study was to explore the way in which patient search for healthcare information on the Internet affects patient medical communication competence behaviors from the point of view of the patient and the physician.

DEDICATION

      The completion of my graduate studies would not have been possible without the love and support of my family and friends. My mother, Paula Owen, my father, Dr. Kip Owen, and my fiancé, Christopher Quin, wholeheartedly inspired, motivated and supported me through the completion of my Master of Arts degree. To my friends, who understandingly allowed me to disappear behind my computer for months at time, thank you for your kindness and encouragement. Without the patience, kind words, and motivation of my beloved family and friends, this project would not have been possible. Thank you for everything.

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CHAPTER I

INTRODUCTION

During the healthcare appointment the physician has traditionally played the dominant

role by providing authoritative advice (Sharf et al., 2005). Physicians have tended to take a

directive, or "high control," style of interaction in which they talk more, ask more questions, give

more directives, and interrupt more frequently than do patients (Sharf et al., 2005). Alternatively,

patients typically assume a *reactive* role in which they voice their health concerns and follow the

physician's medical recommendations (Sharf et al., 2005). But, patients need clear information

and a thorough understanding of their signs, symptoms, and treatment options in order to make

behavior changes and sustain them over time (Schaefer, Miller, Goldstein & Simmons, 2009).

"Patients [must] ask for information in order to understand what is wrong, gain a realistic idea of

the prognosis, understand the procedures and likely outcomes of possible tests and treatments,

learn about available services, receive help to cope, have their suffering legitimized, learn how to

prevent further illness and to identify self-help groups and the 'best' healthcare providers" (Goss,

Mazzi, Piccolo, Rimondini, Zimmermann, 2005, p. 339). Therefore, a vital element of the health

appointment is successful communication between the patient and physician. More specifically,

patients must display competent communication behaviors to further the healthcare process and

ensure effective communication occurs. For example, researchers have determined that patient

information seeking, information provision, and information verifying before and during the

medical appointment are medical communication competence behaviors that patients must perform to ensure effective communication occurs between themselves and physicians.

The first dimension of patient medical communication competence, information seeking, is the use of questions to gather needed information, which leads patients to obtain more information from their physicians (Cegala et al., 1998). Secondly, information provision constitutes successful, or competent, medical communication. Patient information provision is defined by the giving of information about the medical problem, medical history, including previous diagnoses and treatments, and current signs and symptoms (Cegala et al., 1998). Finally, patient verifying behaviors are identified as the patient's use of repetition and information checking to enhance understanding (Cegala et al., 1998). However, previous research on patient medical communication competence has yet to examine the effects Internet-based health information has on patient information seeking, information provision, and information verifying before and during the medical appointment.

PATIENT MEDICAL COMMUNICATION COMPETENCE BEHAVIORS

The medical appointment is a carefully constructed and vulnerable interaction. Physicians are challenged by the necessity to attend to patients' interpersonal issues while also attending to their medical needs (Walker, Arnold, Miller-Day, & Webb, 2002, as cited in Coran, Arnold, & Arnold, 2010, p. 7). But, the medically communicatively competent patient can alleviate some of the challenges physicians face during the medical appointment. Competent patient communication during the medical appointment involves behaviors such as effective information exchange and appropriate relational development (Ong et al., 1995, as cited in McGee & Cegala, 1998). More specifically, patient medical communication competence can be defined by the

behavioral categories of information provision, information seeking, and information verifying (Cegala et al., 2004). "Both physicians and patients place considerable emphasis on task-oriented behavior as constituting patients' communication competence during an interview" (Cegala et al., 2004, p. 301). That is, the medically communicatively competent patient educates himself/herself about the illness, gives prior thought to medical concerns, is well prepared for the medical appointment, creates an agenda for the appointment and stays focused on it, and provides detailed information about his/her medical history and symptoms (Cegala et al., 2004). Further, the medically communicatively competent patient seeks information by asking questions relative to the diagnosis and the treatment (Cegala et al., 2004).

During the course of the medical appointment, the statements issued by both the physician and the patient reflect their respective agendas and give direction to the topics that are considered to be of importance (Cegala, 2006). As the patient provides information about symptoms, medical history, and expresses questions or concerns, the physician is able to determine the areas that are most important and/or concerning to the patient. "Patients' primary, if only, means of influencing the direction of a medical interview is by 'speaking up' and explicitly informing the physician of their concerns" (Cegala, 2006, p. 204). Moreover, up to 80% of physicians' medical decisions are made based on information that patients provide, which is problematic if the patient is not medically communicatively competent and does not provide adequate information that is relevant to the diagnosis and prognosis (Frederikson, 1995; Peterson, Holbrook, Von Hales, Smith, & Staker, 1992; Sandler, 1980, as cited in Cegala, 2006).

However, patients that are not medically communicatively competent may not be cognizant of the communication behavioral skills they lack and with which improvement is needed. For example, it is sometimes "difficult for patients to specify what communication skills

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they need without having sufficient information about the particular medical condition or concern" (Cegala, 2006, p. 126). Until such patients have information about their medical condition and the treatment options, they may not realize they need help with certain communication behavioral skills, such as information seeking or information provision (Cegala, 2006). Therefore, it is important to first assess and understand physician and patient perceptions of patient medical communication competence and then develop programs that address patient inadequacies.

Cegala, Socha McGee, and McNeilis (1996) assert, "competence is best defined in terms of participants' language-in-use and that such usage is largely bound by the limitations and resources available within the immediate social setting in which communication takes place" (p. 3). Competent communication, then, can be defined as "[behavioral] communicative moves that effectively advance a participant's goals and, at the same time, reflect understanding and appropriate accommodation of the other's goals" (Cegala et al., 1996, p. 3). Accordingly, patients and physicians must understand what one another are attempting to achieve communicatively, and competence will be established when the two are able to "perceive and appropriately accommodate and align each others' intentions and communicative moves" (Cegala et al., 1996, p. 3). Moreover, "perceptions of physicians' and patients' communication may in some respects be as important, or more so, than what is actually said during medical interviews" (Stewart et al., 2000, as cited in Cegala, 2007, p. 14).

During the medical appointment, effective information exchange is usually the primary task of both the physician and the patient (Guttman, 1993; Roter, 1989; Roter, Hall, & Katz, 1988; Street, 1991a, as cited in Cegala et al., 1996). Yet, the need for information goes beyond mere decision-making purposes (Czaja, Manfredi, & Price, 2003, as cited in Eheman, Berkowitz,

Lee, Mohile, Purnell et al., 2009); meeting the informational needs of the patient is essential to

successful communication (Rutten, Arora, Bakos, Aziz, & Rowland, 2005, as cited in Eheman et

al., 2009). "Patients who feel that they receive sufficient information are more likely to be

satisfied with their level of involvement in planning the management of their illness" (Turner,

Maher, Young, Young, & Hudson, 1996, as cited in Talosig-Garcia & Davis, 2005, p. 53). Thus,

competent communication between the patient and the physician entails exchanging information

that "facilitates such matters as obtaining an accurate medical history, describing and

understanding the medical problem, providing information about diagnosis and prescribed

treatment, and understanding prescribed procedures and their rationale" (Cegala et al., 1996, p.

4). Additionally, the medically communicatively competent patient provides thorough

descriptions of their medical problem and history, seeks information, verifies understanding of

physician responses and is responsive to physician questions (Cegala et al., 1996).

In an effort to measure perceived patient medical communication competence during the

medical appointment, Cegala, Coleman, and Warisse Turner (1998) developed the Medical

Communication Competence Scale (MCCS), which is focused on competent information

exchange, communicative behavioral displays, and relational/affective communication during

patient-physician interaction. The MCCS is unique in that it assesses both patients' and

physicians' perceptions of patient medical communication competency. During the development

of the MCCS, researchers found that information provision, information seeking, and

information verifying define patient medical communication competence—both patients and

physicians identify competent medical communication by display of the three aforementioned

behaviors during the medical appointment (Cegala, Coleman, and Turner, 1998; Cegala, Socha

McGee, & McNeilis, 1996). More simply put, both physicians and patients consider *task-*

oriented behavior as indicative of patient medical communication competence. Therefore, the following three behavioral dimensions will define patient medical communication competence for the purpose of this study: information seeking, information provision, and information verifying.

While previous research suggests that informed patients are more likely to engage in effective communication with the physician and thus become more compliant to the physician's recommendations, other research suggests that information alone is insufficient in promoting such compliant behavior (Bekker et al., 1999; Fagerlin et al., 2004, as cited in Cegala et al., 2008). But, minor interventions can significantly impact important patient behaviors, such as asking questions and verifying understanding of physician directives (Cegala & Lenzmeier Broz, 2003, as cited in Cegala et al., 2008). Therefore, as researchers become more privy to the information patients access prior to the medical appointment, health-related informational brochures and communication skills training for patients can be developed to help control for patient misunderstandings and anxiety during the medical appointment. Communication training "seems to be a potentially effective way of facilitating health outcomes that are more important to both physicians and patients" (Cegala et al., 2000, p. 63). It is important, then, for researchers to determine factors that affect medical communication competence and then work to develop the most efficient and effective ways of delivering healthcare communication skills training and instruction to patients.

Unfortunately, patients do not always engage in medical communication competence behaviors during the medical appointment, and as a result, ineffective communication occurs. For example, when patients fail to utilize information seeking, information provision, and information verifying behaviors before and during the medical appointment, patient compliance

could decrease, medical errors and malpractice suits could increase, and the patient's overall

health outcomes could diminish. As such, the ways in which patients and physicians

communicate can potentially impact patient physical and psychological health outcomes

(Wright, Sparks, & O'Hair, 2008). Within the short allotted time of the medical appointment,

physicians must make decisions and diagnoses from innumerable possible medical conditions,

and "patients' self-disclosure about their medical history and their ability to articulate their chief

complaints play a crucial role in helping physicians narrow down a wide array of competing

possibilities or the causes of their condition or source concern" (Mentzer & Snyder, 1982, as

cited in Wright et al., 2008, p. 25). While a successful medical appointment is reliant upon

effective communication between the patient and the physician, ineffective communication can

have injurious effects. For example, ineffective communication that results due to a lack of

medical communication competence behaviors on part of the patient before and during the

medical appointment can cause patients to be less compliant, which is costly both in human

terms and economically (Hammond & Lambert, 1994, as cited in Cegala, 2006). When patients

do not comply, they often become more ill and their treatment becomes more costly due to an

increase in number of appointments, additional medication needs, and the possibility that they

will need more expensive medical devices (Cegala, 2006).

Further, short consultations do not provide the physician with sufficient time to deal with

complex patient problems (Videau, Saliba-Serre, Paraponaris, Ventelou, 2010). Short

consultations may be a result of time pressure on the physician, the number of patients with

appointments on a particular day, the density of physicians in the geographic location, and

financial incentives (Videau et al., 2010). Because a physician's time is limited, the medical

appointment must be utilized efficiently (Strumberg & Cilliers, 2009, p. 882). As physicians are

pressured to decrease their time with patients, the use of convenient technological tools with which the patients are familiar and comfortable, such as computers and the Internet, may facilitate effective communication between the physician and the patient (Baker, 2001). The majority of costly malpractice lawsuits in the United States have been linked to problems in patient-physician communication (Wright et al., 2008). For example, malpractice suits have been filed on the grounds of poor physician interpersonal communication skills, patients feeling rushed during the medical appointment, and patients receiving improper explanations from doctors (Koermer & Kilbane, 2008). But, patient preparation prior to the appointment and patient display of information verifying behaviors, such as utterances of understanding or misunderstanding, during the appointment could work to rectify communication difficulties with their physician. Regrettably, "medical malpractice suits are costly to the healthcare system and that cost is passed on to [the consumer] in the form of higher health insurance premiums and charges for visiting the doctor" (Wright et al., 2008, p. 39). To further reduce the number of medical malpractice lawsuits, patients can search for health information on the Internet prior to the medical appointment so that they can more capably discuss their concerns with the physician.

In addition to costly malpractice lawsuits, poor communication between patients and physicians may lead to misdiagnosis and patient dissatisfaction, which has been attributed to poor compliance rates and unnecessary follow-up visits (Li, Koehn, Desroches, Yum, & Deagle, 2007). "A wrong diagnosis could at best lead to repeated outpatient visits, unneeded hospitalization, and unnecessary expense, and at worse, undesirable health outcomes" (Makul et al., 1995, as cited in Li et al., 2007, p. 429). To counteract ineffective and unsuccessful patient-physician communication and patient dissatisfaction, physicians must take into consideration the variables that cause patient dissatisfaction. For example, patient dissatisfaction is related to the

physician dominating the conversation as well as the physician presenting confusing, insufficient, or contradictory information (Simpson, Buckman, Stewart, MacGuire, Lipkin, Novack, & Till, 1991, as cited in Li et al., 2007). In contrast, patient satisfaction is associated with physicians' conversational communication style, with higher satisfaction rates reported by patients that participate in the decision-making process (Buller & Buller, 1987; Bertakis, Roter, & Putman, 1991; Gattelari, Butow, & Tattersall, 2001, as cited in Li et al., 2007). Higher satisfaction rates are also reported by patients that display medical communication competency behaviors, such as those patients that are able to ask questions during the medical appointment and those that receive timely feedback about their illness from physicians (Li & Lundgren, 2005; Evans, Stanley, & Burrows, 1991; Stiles, Putnam, Wolf, & James, 1979, as cited in Li et al., 2007). Despite the promising benefits of the well-informed, communicatively adept, and actively participative patient, very little attention has been given to the ways in which patient medical communication competency behaviors affect healthcare outcomes (McGee & Cegala, 1998). Thus, it is necessary for researchers and healthcare practitioners to first explore patient medical communication competence on a local level and determine whether or not patient search for health information on the Internet is linked to an increase in patient display of medical communication competency behaviors. Therefore, the researcher intends to conduct research in the Texas Rio Grande Valley, a historically underserved low-income area on the border of Texas and Mexico. The typically abysmal health status of the majority of residents in this area requires the analysis of physician-patient communication to be contextualized by cultural, economic, lingual, religious, and educational parameters.

PATIENT SEARCH FOR HEALTH INFORMATION ON THE INTERNET

Through means such as searching for health information on the Internet, patients are learning to better communicate with their physician during the medical appointment, and as a result, patients are becoming educated about their healthcare situation. Availing oneself of the innumerable health resources on the Internet gives access to many health educational opportunities. More importantly, as the patient takes an active role in the healthcare situation, and the patient's medical communication competence is enhanced, more successful health outcomes may result. For example, "the frequency and quality of physicians' explanations of treatment rationale, benefits, and options and patients' questions or expressed concerns about side effects, effectiveness, and risks [will] likely have considerable relevance to patients' compliance" (Cegala, 2006, p. 127).

In addition, health information on the Internet greatly affects how patients access, process, and retain health-related information. For example, Kim and Kim (2009) indicate, "patients feel more comfortable with health discussion and self-diagnosis due to the increased confidence in communicating with the doctor based on their newly gained medical knowledge [found on the Internet]" (p. 137). Additionally, many doctors view the Internet as a useful tool for patient management (McLellan, 2004). For these doctors, the Internet is not a passive information source but a force reshaping the patient-physician relationship. The use of information found on the Internet allows the patient and physician to collaborate on the patient's healthcare plan. That is, actively involved and informed patients substantially contribute to the decision-making process through collaborative communication with the physician (Beisecker & Beisecker, 1990). Such collaborative communication requires the patient to display medical communication competence behaviors such as information provision and information verifying.

As patients have more access to health information via the Internet, the lines of communication are opened between patients and physicians and the patients take a more proactive approach to their health care and the decision-making process. Clear communication between the patient and the physician will increase the patient's understanding of each treatment option and will then lead to an open dialogue between the patient and physician. Collaborative communication between the physician and the actively involved patient ensures "open discussion of health options and co-construction of mutually satisfying decisions" (Balint & Shelton, 1996 as cited in Dutta-Bergman, 2005, p. 293). Highly active and deeply engaged patients have an empowered sense of "being able to influence the lived experience of illness, without discounting a realistic perception of what factors are and are not changeable" (Sharf et al., 2005, p. 48). Therefore, the patient must provide adequate information during the medical appointment, which may require the search for additional health information on the Internet on part of the patient prior to the appointment.

Moreover, effective communication has been shown to have a positive impact on patient compliance to health recommendations, patient satisfaction, patient retention rates, overall health outcomes, and even a reduced number of malpractice suits (Schiavo, 2007, p. 105, citing Dimatteo and others, 1993; Garrity, Haynes, Mattson, & Engerbretson, 1998; Hopkin, 2996; Lukoscheck, Fazzari, & Marantz, 2003; Belzer, 1999). Most importantly, "patients who ask questions, elicit information from physicians, and express opinions and state preferences about their medical treatment tend to have measurably better health outcomes than less active patients" (Post, 2006, p. 135). With an increased knowledge and understanding of the health problem, the patient can better communicate with the physician, leading to more appropriate health recommendations and better health outcomes.

In summation, the Internet seems to be an advantageous tool for disseminating healthcare information and enhancing communication between patients and healthcare providers. Schiavo (2007) postulates that the Internet has the potential to improve healthcare information dispersion and perhaps the ability to improve healthcare delivery and outcomes. In addition, patients that use the Internet to search for health information are distinguished from patients that do not use the Internet as "more active participant[s] in the health information seeking process both before and after a visit to a doctor or clinic, and as a more active participant[s] in using the health information in discussions with medical personnel and for medical decision making" (Warner & Procaccino, 2007, p. 801). Therefore, by producing more effective, informative messages, communicators have the capability to improve healthcare. In addition to increased patient knowledge and understanding of the health problem, patient display of medical communication competence behaviors is likely to increase due to their search for health information on the Internet.

Interestingly, women are more likely than men to use the Internet to seek information about a specific illness and are more likely to search for information about certain symptoms (Fallows, 2005). And, women are more likely than men to take information found on the Internet to the medical appointment (Fallows, 2005). Further, women associate strong feelings with the benefits of online searches, especially the convenience it allows and the large amount of information it provides (Fallows, 2005). Therefore, this study will focus solely on female patients and their physicians.

This study is the first step in determining how patients may increase perceptions of their display of medical communication competency behaviors during the medical appointment in order to reduce miscommunication and malpractice lawsuits. To determine whether or not

patients that search for health information on the Internet prior to the medical appointment may be more likely to display medical communication competence behaviors such as information provision and information verifying during the medical appointment, it is important to examine patient and physician perceptions of female patients' display of medical communication competence behaviors and the way in which female patient use of the Internet to search for health information affects such medical communication competency perceptions.

CHAPTER II

REVIEW OF LITERATURE

The increase of patient participation in healthcare and the subsequent fortification of the patient-physician relationship has many implications for the realm of healthcare. As stated in the 3rd Annual Disease Management Outcomes Summit's (2003) findings, "The intimacy of emotions and the private, often uncomfortable sharing of information between patient and physician require a foundation of mutual responsibilities that include respect, open and honest communication, trust, and compassion" (American Healthways, Inc., 2004, p. vii). Research suggests that patients who ask questions, state their preferences, and actively participate in the medical appointment have exponentially better health outcomes than less-active patients (Kaplan, Greenfield, Gandek, Rogers, & Ware, 1996, as cited in Cegala, 2000). Therefore, the patient-physician relationship functions best when the physician acknowledges the role of the active patient and integrates him/her into the healthcare plan. Also, patients should function as active consumers wherein they work to become educated about their health situation, relying on sources other than the physician for such information—sources such as the Internet.

Thus, a potential function of the Internet is to motivate patients to communicate more with their physicians and become more actively involved with their healthcare, which has become an important issue as of late (Bylund & Imes, 2005; Dutta-Bergman 2004; Haynes, 1979; Moorman & Matulich, 1993; Young & Klingle, 1996; Zaichowsky, 1985). Such health motivation has been related to health information acquisition wherein searching for health

information online allows the patient to have widespread access to information, as well as anonymity, the potential for interactivity, social support, and the ability to tailor information to one's needs (Moorman & Matulich, 1993; Cline & Haynes, 2001). By allowing patients to become involved in their healthcare, or giving patients the means to obtain health information, the patients are empowered. In turn, empowered patients experience the benefits of "being better informed, feeling confident in the relationship with their physician, their treatment and their social environment, improved acceptance of the disease, increased optimism and control, and enhanced self-esteem and social well-being" (Marcinkiewicz & Mahboobi, 2009, p. 3). Thus, patient use of Internet-based health information is an opportunity. "[Internet-based health information] can facilitate genuine consultation, and promote partnerships with patients and empower people to deal with chronic, complex and life-threatening illness" (Marcinkiewicz & Mahboobi, 2009, p. 4). In addition, patient use of Internet-based health information is leading to increased patient participation during the medical appointment.

Active health participation can be attributed to a patient's active participation in his or her own healthcare and well-being. Active health participation can be defined as the individual's degree of participation in his or her own healthcare maintenance, including the degree of engagement with the illness or health conditions, as well as the formation of a successful patient-physician relationship (Sharf et al., 2005). Also, how the patient negotiates control of healthcare decision-making with their healthcare providers characterizes active health participation (Sharf et al., 2005). More importantly, "among the ways patients can meaningfully participate in their healthcare is to take an active communicative role during medical interviews with healthcare providers" (Cegala, 2006, p. 205). Patients can be active participants by asking questions, eliciting treatment options, providing information about previous treatment courses taken, and

discussing the prognosis. "It appears that by asking questions, providing detailed information, and expressing assertives (e.g., opinions, preferences) about treatment, patients signal that this topic [is] of particular interest to them" (Cegala, 2006, pp. 207-208). In turn, physicians are more likely to not only provide information about treatment in response to the patients' questions, but also to volunteer unprompted information (Cegala, 2006). Thus, "there is at least a suggestion that high patient participation has important implications for better health outcomes through its impact on promoting communication about treatment" (Cegala, 2006, p. 208).

But, a barrier often cited as the prominent factor negating an equitable relationship between physician and patient is the distance between the two, which is not only professional, but also social. Physicians stand apart from the majority of their patients in terms of professional status, income, and knowledge—the only variable patients have control over in this situation is knowledge. With an increased knowledge and understanding of the health problem, the patient can better communicate with the physician, leading to more appropriate health recommendations and better health outcomes. Conversely, dissatisfaction is caused by ineffective patient-physician communication, which results from the "lack of feedback, insensitivity to and misinterpretations of relational needs, failure to express empathy, and disregard for the other's input in decision making" (Cegala et al., 1995, p. 181). Thus, it is of utmost importance for patients to actively participate in their healthcare by information-seeking through means such as the Internet.

Health information on the Internet greatly affects how patients access, process, and retain health-related information. For example, Kim and Kim (2009) indicate, "patients feel more comfortable with health discussion and self-diagnosis due to the increased confidence in communicating with the doctor based on their newly gained medical knowledge [found on the Internet]" (p. 137). Further, many physicians believe that the Internet helps patients to

understand the treatment and medical advice they receive (Kim & Kim, 2009). Although

relatively little attention has been paid to what patients do with the information they access

(Cegala, Bahnson, Clinton, David, Gong, Monk, Nag, & Pohar, 2008), there has been an

indisputable increase in the number of patients that bring Internet-based health information to the

medical appointment (Dickerson, Reinhart, Feeley, Bidani, Rich, Garg, & Hershey, 2004, as

cited in Ahmad et al., 2006), which may affect how patients interact with physicians (Cegala et

al., 2008).

Many doctors view the Internet as a useful tool for patient management (McLellan, 2004,

as cited in Friedman, 2004). For these doctors, the Internet is not a passive information source

but a force reshaping the patient-physician relationship. "The knowledge [the Internet] provides

is powerful, creating a kind of 'presence' that has been called a third party in the examining

room" (McLellan, 2004, quoting Pergament, 1999, as cited in Friedman, 2004, p. 373). Further,

"the information patients are seeking and creating online is of many types and may be used for a

variety of purposes that may directly and profoundly affect the patient-physician relationship"

(McLellan, 2004, as cited in Friedman, 2004, p. 377). The use of information found on the

Internet allows the patient and physician to collaborate on the patient's healthcare plan. That is,

actively involved and informed patients substantially contribute to the decision-making process

through collaborative communication with the physician (Beisecker & Beisecker, 1990).

Collaborative communication between the patient and physician requires the patient to display

medically communicatively competent behaviors and use means such as information seeking,

information provision, and information verifying to ensure that appropriate and beneficial

decisions are made.

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PATIENT SEARCH FOR HEALTH INFORMATION ON THE INTERNET

On any given day, 10 million American adults access the Internet in order to search for health information (Peña-Purcell, 2008). Over the past few years, functionality improvements and increased content personalization have helped to increase consumer acceptance of the Internet as a source for health information (Clabaugh, 2009). For example, in 2001 there were more than 70,000 websites disseminating health information (Cline & Haynes, 2001, as cited in Bowen, Meischke, Bush, Wooldridge, Robbins, Ludwig, & Escamilla, 2003). Due to the proliferation of health information on the Internet, patients and physicians in the United States are experiencing a dramatic shift in their relationship. Patients and physicians are taking a more collaborative approach to healthcare and patient treatment decisions (Auyash, 1984; Gerber & Eiser, 2001; Sharf, Haidet, & Kroll, 2005; Speedling & Rose, 1985). In such a collaborative relationship, the physician assists with choosing the treatment method that the patient prefers and encourages the patient to actively research health information (Kim & Kim, 2009). The ways in which a patient takes a proactive approach to his or her own healthcare, the patient's attentive involvement and dialogue with the physician, and the patient's methods of information-seeking outside of the physician's office all play a part in effecting the process of the medical consultation and subsequent health outcomes. As the patient actively participates and communicates with the physician, an equitable physician-patient relationship is formed wherein the patient "takes a newly found responsibility for disclosing preferences, obtaining information, and weighing treatment alternatives" (Gerber & Eiser, 2001, p. 3).

The emergent physician-patient relationship is more of a contract, developed through an interaction in which both parties benefit from the relationship, are willing to communicate and negotiate, acknowledge personal responsibilities, and both consent to the relationship (Sharf et

al., 2005). As patients take an active role in their healthcare, they are more capable of understanding the medical situation. "By active collaboration, the patient and [the physician] develop a non-judgmental, non-authoritarian relationship that more closely resembles a partnership" (Bodenheimer, MacGregor, & Sharifi, 2005, p. 11). Such a partnership supports the patient in building the skills and confidence needed to lead an active and fulfilling life (Schaefer, Miller, Goldstein & Simmons, 2009). But, in order to create a collaborative, supportive relationship, the physician and the patient must successfully communicate with one another.

As previously mentioned, a growing body of research supports the notion that effective patient-physician communication can lead to improved health outcomes (Greenfield, Kaplan, Ware, Yano & Frank, 1988; Kaplan, Greenfield, & Ware, 1989; Rost, Falvin, Cole, & McGille, 1991; Stewart et al., 2000, as cited in Cegala, 2006). One of the most observed positive effects of successful patient-physician communication is an increase in patient compliance (Golin, DiMatteo, & Gelberg, 1996; Kjellgren, Ahlner, & Saljo, 1995; McLane, Zyzanksi, & Flocke, 1995, as cited in Wright et al., 2008). Further, Parkinson (2009) posits that patient use of the Internet is "enabling the community of patients and doctors to communicate better" (as cited in Hawn, 2009, p. 362). For instance, the efficacy of the information-giving process improves as physicians' knowledge of patients' point of view increases (Braddock, Fihn, Levinson, Jonsen, & Pearlman, 1997, as cited in Goss et al., 2005, p. 340).

For patients in particular, the Internet is helping in several ways. Schiavo (2007) points out that "as patients' participation in health decisions increases, communication tools and events targeted to patients may help them do their share in establishing a true partnership with their providers" (p. 115). Such communication tools and events targeted to patients may assist them in asking physicians the right questions and becoming familiar with common medical terms

(Schiavo, 2007). Searching for health information online may prepare patients to deal with conflicts or other impediments that prevent them from following a physician's recommendations as well as show respect for the physician's time and experience (Schiavo, 2007). Further, Internet-based health information may assist patients to stay focused on the behavior changes, medication remedies, and other doctors' orders that are necessary to improve or cure the illness (Schiavo, 2007). Thus, "the ubiquity of the Internet as a communication medium and content distributor render it ideally suited to support patient-centered healthcare" (Baker, 2001, p. 413).

The communication tools Schiavo (2007) refers to, such as the Internet, are influential contrivances that have the potential to improve healthcare information dispersion and perhaps the ability to improve healthcare delivery and outcomes. Not only does the Internet allow for the delivery of healthcare information, it also allows patients to access content that matches their own needs and interests (Crosbie, 2008). By producing more effective, informative messages, communicators have the capability to improve healthcare. Specifically, through more access to and utilization of Internet-based health information, "individual patients will get better care, individual clinicians will give it. Overall, the quality of care will improve" (Hawn, 2009, p. 365). Thus, the Internet seems to be an advantageous tool for disseminating healthcare information and enhancing communication between patients and healthcare providers.

As noted by the Institute of Medicine in 2001, the healthcare system in the United States is outdated and fails to translate technological innovations into improved health outcomes (2001). Further, the Institute for Healthcare Improvement stated in 2008 that "many patients do not understand what their doctors have told them and do not participate in decisions about their care, which leaves them ill prepared to make daily decisions and take actions that lead to good [health] management" (as cited in Schaefer, Miller, Goldstein & Simmons, 2009, p. 1). Problems

due to inadequate communication between the patient and the physician range from poor patient satisfaction and patient noncompliance to increased amounts of litigation and higher costs to patients and healthcare systems (Campbell, Lockyer, Laidlaw, & MacLeod, 2007). For example, Eleanor Kinney (2010) states, "Since the demise of the last major health reform initiative in 1994, health coverage for the American people has deteriorated" (p. 405). For instance, the cost of providing care for uninsured or underinsured individuals forces the government, tax payers, and healthcare systems to absorb the costs, which was estimated to be between $56 and $73 billion in 2008 alone (U.S. Department of Health and Human Services, 2011). Therefore, those in the healthcare industry have begun to seek out new and innovative means of providing health information and services for patients while reducing the costs of caring for American residents.

For instance, advancing technology allows for patients' information-seeking and active participation with healthcare via the Internet, which is transforming the structure of the physician-patient relationship and the healthcare system as a whole. Traditionally, it has been the responsibility of the physician to integrate all sources of healthcare information and convey this information to the patient during the medical appointment. This process of gathering and presenting information to the patient led to an asymmetrical relationship between the patient and physician due to the physician's possession of significantly more information than the patient. But, many physicians now believe that patient-centered communication is most effective when it is personalized to each patient's individual needs, values, and preferences (Stewart, 2001, as cited in Wynia & Osborn, 2010). Similarly, patients have begun to turn to the Internet for health information, thus altering the burden of information possession in the healthcare setting. For example, in 2000, 54% of all American adult Internet users stated that they look for health or medical information online (Fox & Fallows, 2003). By 2003, 66% of Internet users said they

search for health information online (Fox & Fallows, 2003). And, by the end of 2004, 79% of Internet users searched for health information online (Fox, 2005, as cited in Warner & Procaccino, 2007).

Although patient use or misuse of irrelevant or inaccurate information, or misunderstanding of valid information, on the Internet may potentially cause physical, emotional, or financial harm to the patient (Crocco, Villasis-Keever, Jadad, 2002), "the Internet's capacity for harm is likely to be equal to or exceeded by its capacity for providing good and useful health information to users in a relatively inexpensive and timely manner" (Crocco et al., 2002, p. 2870). And, as physicians take the time to explain to patients why the information they found on the Internet is incorrect or inappropriate, it may provide an opportunity to clarify the patients' medical situation, relieve anxiety, and strengthen rapport with patients (Helft et al., 2003).

THE BENEFITS OF INTERNET-BASED HEALTH INFORMATION

At the 3rd Annual Disease Management Outcomes Summit in Phoenix, Arizona in 2003, researchers examined both patients' and physicians' beliefs about the components which constitute an ideal patient-physician relationship (American Healthways, Inc., 2004). Researchers embarked on this study due to their belief that the patient-physician relationship is "fundamental to providing and receiving excellent care, to the healing process and to improved outcomes" (American Healthways, Inc., 2004, p. iv). The general opinion of those in attendance was that the quality of the patient-physician relationship is extremely important—"the better the relationship, the better the outcomes of care will be" (American Healthways, Inc., 2004, p.22).

As previously mentioned, the increase of new medical technologies, the patient-physician relationship is being transformed. Specifically, patients are becoming a central component of the healthcare plan (American Healthways, Inc., 2004). Patients are no longer mere recipients of medical care. Rather, patients are active and informed, exerting greater control over their healthcare than ever before (American Healthways, Inc., 2004). For example, Doctors Gerber and Eiser (2001) theorize that the Internet offers opportunities to improve the patient-physician relationship by sharing the burden of responsibility for knowledge.

For example, patients that search for Internet-based health information are considered more successful at finding useful health information and having more of their questions answered during the medical appointment (Warner & Procaccino, 2007). Patients that actively use the Internet have been found to seek information to supplement that given by a physician or medical professional and utilize found information during the decision-making process when considering various medical treatment options or after the prognosis of a disease or medical condition (Warner & Procaccino, 2007). In the United States, more than 80% of Internet users search for health information, making it the third most popular online activity, following email and using a search engine (Fox, 2011). In addition, 66% percent of Internet users look online for information about a specific disease or medical problem and 56% of Internet users look online for information about a certain medical treatment or procedure (Fox, 2011). As such, the shift in the patient-physician relationship has undoubtedly been affected by the increase in patient use of the Internet to search for health information.

In summation, the Internet has created a large amount of opportunities for patients to become self-educated about their health situation, allowing for patient information-seeking and

active health participation, which positively influences patient communication and transforms the structure of the physician-patient relationship.

FEMALES AND THE INTERNET

The dynamics of gender in the healthcare setting have proven to have an affect on the discourse and outcomes of the medical appointment (Li, Koehn, Desroches, Yum, & Deagle, 2007). For instance, female patients usually communicate more detailed symptoms when speaking to the physician (Clark, Potter, & McKinlay, 1991, as cited in Li et al., 2007). And, because they usually request more information, female patients typically receive more information from the physician during the medical appointment (Speedling & Rose, 1985, as cited in Li et a., 2007). In general, women in the United States are more likely than men to search for health information (Wright et al., 2008). Also, women are more likely than men to make regular appointments, or visits, with female-specific physicians such as gynecologists and they experience more healthcare problems than do men (Wright et al., 2008). More importantly, female patients become more involved in the medical appointment than male patients (Li, Krysko, Desroches, & Geagle, 2004, as cited in Li et al., 2007) and physicians are more likely to ask about the opinions or feelings of female patients than of male patients (Stewart, 1984, 1995, as cited in Li et al., 2007).

Similarly, women typically have slower consultations (Wilson, 1991; Brit, Valenti, & Miller, 2005; Andersson & Mattsson, 1989; Deveugele, Derese, Van Den Brink-Muinen, Bensing, & De Maeseneer, 2002; Britt, Valenti, Miller, & Farmer, 2004, as cited in Strumberg, & Cilliers, 2009). However, slower consultations have more favorable outcomes because of more lifestyle, prevention, and screening interventions, fewer prescriptions and referrals, and

greater enablement and patient satisfaction (Wilson, 1989; Wilson & Childs, 2002; Hughes, 183; Wilson, 1991; Pawlikowska, Nowak, Szumilo-Grzesik, & Walker, 2002; Hughes, 1983; Howie, Heaney, & Maxwell, 1995; Cape, 2002, as cited in Strumberg & Cilliers, 2009). Additionally, slower consultations result in less follow-up appointments or return visits (Wilson, 1991; Wilson & Childs, 2002; Hughes, 1083, as cited in Strumberg & Cilliers, 2009).

Further, Li et al. (2007) found that male physicians tend to display more facilitative behaviors, such as smiling, nodding, or frowning, or asking for repetition, understanding, or opinion, when consulting with female patients than with male patients, which is problematic since facilitative remarks are negatively correlated with patient satisfaction. In order to counteract such facilitative behaviors, "patients, particularly female patients, may need information on their right to ask questions when they want to and on their right to not letting physicians facilitate them to a level of discomfort" (Li et al., 2007, p. 429). During the medical appointment, females disclose very personal and private information and must therefore feel comfortable asking questions and seeking information in the healthcare setting (Goins, 2009). By arming themselves with more information, female patients may be able to create more productive and healthy exchanges between themselves and their physician (Li et al., 2007).

As stated above, a method by which patients can gather pertinent health information is through the Internet. In a survey conducted by Goins (2009), female respondents indicated that they "would find a website useful and informative, as well as using it as a tool for learning and referring other women to" (p. 15), which may explain why research has found that women are significantly more inclined to search for health information on the Internet than are men (Fallows, 2005). In a study conducted by Fox (2011), not one search topic studied attracted more men than women (Dolan, 2011). In addition, women associate strong feelings with the benefits

of online searches, especially the convenience it allows and the large amount of information it provides (Fallows, 2005). Women are also more likely than men to seek information about a specific illness and are more likely to search for information about certain symptoms (Fallows, 2005). And, women are more likely than men to take information found on the Internet to the medical appointment (Fallows, 2005).

Moreover, in the majority of global households, women are the primary family caregivers. As women manage and involve themselves in the health situation of each family member, she becomes an active health participant. Thus, as females are more voracious users of the Internet in the search for and utilization of health information, this study will focus solely on female patients.

DISTINGUISHING FACTORS OF MEDICAL COMMUNICATION COMPETENCE

Although there has been considerable research into patient-physician communication, previous studies have not identified distinguishing factors that may make patients more likely to display competent medical communication behaviors. Specifically, previous research on patient medical communication competence has yet to examine the effects Internet-based health information has on patient information seeking, information provision, and information verifying before and during the medical appointment. "Although the relative advantages of [the Internet] are important for understanding its adoption (Rogers, 2003), to better understand the role of new communication media it is crucial to investigate more than the increase in magnitude and efficiency of performing previous tasks" (Contractor & Bishop, 2000, as cited in Ginossar, 2008). For instance, research has found that patients consistently report information and emotional support seeking as their motivation behind searching for health information on the

Internet and their involvement with computer-based support groups (Braithwaite et al., 1999; Klemm, Hurst, Dearholt, & Trone, 1999; Klemm, Reppert, & Visich, 1998; Peterson, 1999; Sharf, 1997; Shaw et al., 2000; Sullivan, 2003; Warisse Turner et al., 2001; Weinberg et al., 1996; White, 2000; Wright, 2000, 2002, as cited in Ginossar, 2008).

Similarly, Ginossar (2008) found that approximately 75% of online health communities are comprised of women, the majority of which are seeking emotional support and information exchange (Klemm et al., 1999). In the same study, Ginossar (2008) noted that three-fourths of the email messages sent in two online health communities were from women. Indicative of the previously stated participatory behaviors displayed by women during the medical appointment, female contribution to online health communities is congruous with the greater involvement of women in health-related information seeking (Waitzkin, 1985, as cited in Ginossar, 2008). And, as previously established, both patients and physicians identify competent medical communication by display of information-seeking behaviors. Further, meeting the informational needs of the patient is essential to successful communication (Rutten et al., 2005). Thus, the active use of the Internet to search for health information *may* lead to increased levels of perceived female patient medical communication competence.

Yet, as mentioned above, previous medical communication competency studies have not identified distinguishing factors that may make patients more likely to display competent medical communication behaviors such as information seeking, information provision, and information verifying. But, "a major objective in training patients to be more active information seekers [and providers] is to aid them in obtaining information from their physicians" (Cegala et al., 1998, p. 417). Specifically, it is pertinent that patients are assisted in the search for useful information. Moreover, there is a need to develop more efficient ways of delivering patient

instruction (Cegala et al., 1998). "While elaborate face-to-face procedures may be necessary for initial assessment of the worth of communication skills training, few if any healthcare providers have time or resources available to utilize such procedures in the field. Research is needed to examine the most effective and practical ways of using videotape, print, CDs, the Internet and other media forms to deliver instruction in patient communication skills" (Cegala et al., 1998, p. 426). Unfortunately, to the researcher's knowledge, previous research on patient medical communication competence has yet to examine the effects on which Internet-based health information has on patient information seeking, information provision and information verifying before and during the medical appointment. Therefore, the purpose of this study is to examine one way of increasing patient display of medical communication competence behaviors—the active search for Internet-based health information—that may make female patients more likely to display competent medical communication behaviors and the way in which female patient use of information found on the Internet affects both patient and physician perceptions of patient medical communication competence.

The first dimension of patient medical communication competence, information seeking, is the use of questions to gather needed information, which leads patients to obtain more information from their physicians (Cegala et al., 1998). For example, female patients are more likely to become involved in the medical appointment than male patients (Li, Krysko, Desroches, & Geagle, 2004, as cited in Li et al., 2007), which translates to more information-seeking displays by women during the medical appointment. Additionally, "if patients have more information about their medical condition they will be better able to make intelligent decisions about their healthcare" (McGee and Cegala, 1998, p. 417). Cegala, Coleman, and Warisse Turner (1998) found that patients who desire more information are rated as more medically

communicatively competent by physicians than those patients who want less information. For instance, because they usually request more information, female patients typically receive more information from the physician during the medical appointment (Speedling & Rose, 1985, as cited in Li et a., 2007), which can be "attributed to women's greater exposure of health information, to women's greater acceptance of the help-seeking role, to physicians providing more opportunities for women to ask questions, [etc.]" (Waitzkin, 1984; Wallen, Waitzkin, Stoeckle, 1979; and Korsch & Negrete, 1972, as cited in Weisman, 1986, p. 148). Further, Ahmad, Hudak, Bercovitz, Hollenberg, and Levinson (2006) found that physicians have a positive perception of patients that use the Internet for educating themselves about their pre-established medical conditions. Such patients introduced Internet-based health information during the medical appointment for confirmation, without challenging physicians' expertise (Ahmad et al., 2006). Interestingly, women are more likely than men to take information found on the Internet to the medical appointment (Fallows, 2005). Therefore, the researcher proposes the following hypotheses:

> ***H1a: Physicians perceive female patients with a high frequency of health-related Internet activity as displaying more information-seeking behaviors than those female patients with a low frequency of health-related Internet activity.***

> ***H1b: Female patients with a high frequency of health-related Internet activity perceive themselves as displaying more information-seeking behaviors than those female patients with a low frequency of health-related Internet activity.***

Secondly, information provision constitutes successful, or competent, medical communication. Patient information provision is defined by the giving of information about the medical problem, medical history, including previous diagnoses and treatments, and current signs and symptoms (Cegala et al., 1998). Information provision encompasses both the amount

of detailed information the patient provides in response to the physician's questions, as well as the information the patient volunteers (Cegala, 2006), such as female patients, who usually communicate more detailed symptoms than men when speaking to the physician (Clark, Potter, & McKinlay, 1991, as cited in Li et al., 2007). In addition, physicians are more likely to ask about the opinions or feelings of female patients than of male patients (Stewart, 1984, 1995, as cited in Li et al., 2007). The information that a patient volunteers is important because the physician may miss opportunities to elicit relevant information from the patient when diagnosing or contextualizing the patient's illness (Cegala, 2006). Thompson (1994) found that "the awkward and difficult nature of healthcare dictates that physicians and patients communicate openly to reach satisfactory outcomes" (as cited in Dutta-Bergman, 2005, p. 293). Further, "the openness of the initial interaction between the doctor and the patient is critical to the accuracy of the diagnosis and the selection of appropriate treatment options" (Eisenthal, Koopman, & Stoeckle, 1990 as cited in Dutta-Bergman, 2005, p. 293). As stated previously, as patients access and utilize information found on the Internet, a genuine consultation can occur. During such a genuine consultation, the patient provides pertinent information. For instance, research has found that women are significantly more inclined to search for health information on the Internet than are men (Fallows, 2005). Eighty-six percent of female Internet user search for health information online while only 73% of male Internet users do so (Fox, 2011). Specifically, pregnant women and mothers of young children have been found to be very active consumers of Internet-based health information (Marcinkiewicz & Mahboobi, 2009). Twenty-four percent of female Internet users have searched online for information about pregnancy and childbirth as compared to the 13% of male Internet users that have done so (Fox, 2011). Previous studies suggest that women who search for health information on the Internet are motivated by "wanting to learn more about

diagnosing and treating specific pediatric health conditions and seeking advice and support on parenting issues and child development" (Marcinkiewicz & Mahboobi, 2009, p. 4). Due to the aforementioned Internet health information searching habits, women are more likely to be prepared for the medical appointment than are men.

From the physician's perspective, the communicatively competent patient is "well prepared, he or she gives prior thought to medical concerns and even educates one's self about the illness" (Cegala et al., 2004, p. 301). Additionally, the prepared patient goes to the medical appointment with an agenda and remains focused on it while also providing detailed information about his/her medical history, symptoms and other pertinent issues. The wide availability of the Internet through an innumerable amount of convenient and portable tools, such as smartphones and tablets, allows patients to access health information seemingly from anywhere at any time, which may account for the increase in the number of female patients that bring Internet-based health information to the medical appointment (Dickerson et al., 2004, as cited in Ahmad et al., 2006). More importantly, patients and physicians place the most emphasis on information provision when determining the behaviors that indicate patient medical communication competence. So, the researcher proposes the following hypotheses:

> *H2a: Physicians perceive female patients with a high frequency of health-related Internet activity as displaying more information-provision behaviors than those female patients with a low frequency of health-related Internet activity.*

> *H2b: Female patients with a high frequency of health-related Internet activity perceive themselves as displaying more information-provision behaviors than those female patients with a low frequency of health-related Internet activity.*

Lastly, as reported previously reported, patient information verifying strategies enhance patient recall of information and increase patient satisfaction (Bertakis, 1977, as cited in McGee and Cegala, 1998). Such verifying behaviors are identified as the patient's use of repetition and information checking to enhance understanding (Cegala et al., 1998). For example, "requests for repetition or clarification, or summaries of what another has just said, are forms of information verifying" (Cegala, 2006, p. 205). Information verifying behaviors, such as utterances intended to check one's understanding of information, have been shown to "enhance patients' understanding and recall of information" (Bertakis, 1977, as cited in Cegala, 2006, p. 205). Additionally, Cegala, Coleman, and Warisse Turner (1998) discovered that patients who desire more information are perceived by physicians as engaging in more information verifying behaviors than those patients who only want a moderate amount of information. Similarly, Li et al. (2007) found that male physicians tend to display more facilitative behaviors, such as smiling, nodding, or frowning, or asking for repetition, understanding, or opinion, when consulting with female patients than with male patients. In order to counteract such facilitative behaviors, according to Li et al. (2007), "patients, particularly female patients, may need information on their right to ask questions when they want to and on their right to not letting physicians facilitate them to a level of discomfort" (p. 429). It is important to note, however, "information verifying does not involve the acquisition of new information, but rather involves clarifying information one has received" (Cegala et al., 1998, p. 283). As mentioned above, Doctors Gerber and Esier (2001) theorize that the Internet offers opportunities to improve the patient-physician relationship by sharing the burden of responsibility for knowledge. Through the access of Internet-based health information, female patients may be more inclined to engage in behaviors during the medical appointment that enhance understanding. By arming themselves with more

Internet-based health information, female patients may be able to create more productive and

healthy exchanges between themselves and their physician (Li et al., 2007). Therefore, the

researcher proposes the following hypotheses:

> *H3a: Physicians perceive female patients with a high frequency of health-related Internet activity as displaying more information-verifying behaviors than those female patients with a low frequency of health-related Internet activity.*
>
> *H3b: Female patients with a high frequency of health-related Internet activity perceive themselves as displaying more information-verifying behaviors than those female patients with a low frequency of health-related Internet activity.*

CHAPTER III

METHODOLOGY

This chapter will examine the methodology that was used to test the hypotheses. Specifically, this chapter will review participants, research design, procedures, and survey instrumentation. For a further review of survey instrumentation, see Appendices A - E.

PARTICIPANTS

This study included a total of 77 female patients, six physicians (4 male, 2 female) and one female physician assistant from the Rio Grande Valley of Texas. Patients and physicians were selected on the basis of their willingness to participate. Participant eligibility was not limited or restricted.

Physicians

Physician and physician assistant participants ranged in age from 35 to 58. Five of the physician/physician assistant participants were of Hispanic descent and two were Caucasian. The physician assistant and three of the physicians specialized in obstetrics and gynecology. Two physician participants specialized in family practice and one physician was a sports medicine orthopaedic surgeon.

Patients

One-hundred percent of patient participants were female. One percent of participants were under the age of 18 (*n* = 1), 44% were between the ages of 18 and 29 (*n* = 34), 30% were ages 30-41 (*n* = 23), 17% were ages 42-53 (*n* = 13), 4% were between the ages of 54 and 65 (*n* = 3), and 4% of patient participants were over the age of 65 (*n* = 3). Ninety-four percent of patient participants indicated their race as Hispanic (*n* = 72), 5% of patient participants stated their race as White/ Caucasian (*n* = 4) and 1% cited her race as American Indian/ Alaskan Native (*n* = 1). At 70%, the majority of patient participants indicated their primary language as English (*n* = 54). Twenty-two percent of patient participants cited Spanish as their primary language (*n* = 17) and 7% of participants claimed their primary language as other, most circling both Spanish and English (*n* = 6). In the assessment of patient level of education, zero participants cited their highest level of education achieved as doctorate or professional (e.g., MD, JD, etc.). Twenty-nine percent of patient participants indicated they had some college education (*n* = 22), 26% of participants' highest level of education was high school (*n* =20), 18% of participants were college graduates (*n* = 14), 14% of participants attended vocational or technical school (*n* = 11), 10% of participants had obtained a master's degree (*n* = 8), and 3% of participants completed only elementary school (*n* = 2). Forty-seven percent of patient participants were married (*n* = 36), 27% of participants were single (*n* = 21), 14% of patient participants were divorced (*n* = 11), 10% of patients indicated they were living with another (*n* = 8), and 1% of patient participants were widowed (*n* = 1). Thirty-six percent of patient participants' total household income was less than $20,000 (*n* = 27), 35% of patient participant total household income was $20,000 - $49,000 (*n* = 26), 17% stated their total household income as $80,000 - $109,000 (*n* = 13), 11% of patient

participants' total household income was $50,000 - $79,000 ($n = 8$), and one patient participant (1%) cited her total household income as over $110,000.

PROCEDURE

To determine if patient use of the Internet to search for healthcare information influences patient and physician perceptions of patient medical communication competence, the researcher distributed surveys during a five-month period at six physician offices. Patients and physicians were assured that answers to the surveys would not include patient names or distinguishing characteristics and their responses would only be used for the purposes of this study.

The non-random purposive sample of patients and physicians was given self-administered surveys regarding patient medical communication competence and the patients' use of the Internet in the search for healthcare information. Patients were asked to voluntarily participate in the survey as they registered for medical appointments at the physicians' offices. Patient volunteers signed a consent form on the front page of the survey, which included the patient's name and a survey number. Upon completion of the survey, the researcher removed the consent form so that the answers were not associated with the patient name.

Physicians were selected from a list of partners at a large hospital in the Rio Grande Valley. Letters approved by the Chief Operations Officer of the hospital introduced the study to the physicians. The letter outlined the goals of the study, gave a general description of the topics of interest, and described the responsibilities of the physicians participating in study.

The physicians that agreed to participate received a detailed information package that explained the purpose of the study and how to use the survey instrument. At the end of each distribution period the physicians were asked to complete their portion of the survey instrument,

which was an adaptation of the Medical Communication Competence Scale (Cegala, Coleman, & Turnet, 1998) (Appendix D) in reference to the group of patient surveys. The physicians were provided with a copy of the numbered patient consent forms from the completed patient surveys in addition to the physician survey with a corresponding number, which they were asked to complete within the allotted 14-day time period outside of the researcher's presence. This process continued until a sufficient number of patient and physician surveys were completed.

SURVEY INSTRUMENTATION

The surveys for this study consisted of basic sociodemographic questions (e.g., primary language spoken, household income, marital status, and level of education) that were used to classify the respondents' answers, along with a broader based question set regarding patient medical communication competence (Appendices A – E). All survey instruments were translated into Spanish. Finite definitions of medical communication competence were not provided on the patient or physician surveys in order to eliminate researcher bias. Further, the survey instruments were limited to three pages in an effort to increase physician and patient response rates.

Level of Patient Internet Use in the Search for Healthcare Information. Level of patient Internet use in the search for healthcare information was measured with the Internet Usage Measure (IUM), a questionnaire designed by the researcher, as adapted from surveys conducted by Pew Internet and the American Life Project (2011) (Appendix A). Participants that indicated they use the Internet once a week, two to three times a week, or daily were labeled as high Internet users. Participants that stated they used the Internet two to three times a month, once a month, less than once a month, or not at all were labeled low Internet users. The survey consisted of two ordinal questions with a total of nine items, which assessed the respondent's use

of the Internet for health-related activities ($\alpha = .79$). The first question asked the patient

participants to indicate how often they (1) go online and do something related to health, (2)

check or send email messages about health, (3) research healthcare information, and (4) visit

sites or groups related to healthcare. The second question asked the patient participants how

often they access the Internet from (1) home, (2) work, (3) school, (4) a public place, or (5)

other, with space for the participants to write from where else they access the Internet.

Though 33% of the 77 survey respondents were identified as high Internet users ($n = 26$),

the researcher did not find glaring demographic differences between the two groups. Twenty-five

of the high Internet users were Hispanic and 99% were between the ages of 18 and 53 ($n = 25$).

Interestingly, 46% of the high Internet users and 43% of the low Internet users were between the

ages of 18 and 29. Similar to the low Internet users, the majority of high Internet users spoke

English ($n = 20$). Forty-six percent of high Internet users have at least some college education (n

$= 12$) while 63% of low Internet users have at least some college education ($n = 32$). Seventy-

three percent of the low Internet users and 65% of the high Internet users reported their level of

income as $49,000 or lower.

Patient Medical Communication Competence

Patients completed the adapted self-competence Medical Communication Competence

Scale (Appendix B) in the researcher's presence. Following completion and collection of patient

surveys, physicians recorded their own demographic characteristics (Appendix E) and completed

the adapted other-competence Medical Communication Competence Scale (Appendix D) during

the requested 14-day time limit outside of the researcher's presence.

The adapted Medical Communication Competence Scale (MCCS) consisted of ten

statements about which patients and physicians were asked to rate from strongly agree to strongly disagree. Patients were asked to rate the statements based on the leading sentence, "During medical appointments, I do a good job of…". Physicians were asked to rate the statements based on the leading sentence, "During the medical appointment the patient did a good job of…". The scale was comprised of three statements pertaining to information provision, four statements about information verifying, and three statements alluding to information seeking. The categorization of the aforementioned statements was not known by the patients or the physicians.

During a previous assessment of the Medical Communication Competence Scale (Cegala et al., 1998), patients who desired more information were found to have higher self-competence scores and were rated higher by their physicians in information seeking than patients who wanted less information (*MRs* = 27.67, 23.65; z = 2.30, *p* = .01, one-tailed; *MRs* = 28.36, 23.23; *z* = 1.88, *p* = .03, one tailed, respectively). In addition, patients who reported wanting a greater deal of information were perceived by physicians as engaging in more information verifying than patients who reported only wanting a moderate amount of information (*MRs* = 28.34, 21.25; z = 1.76, *p* = .04, one-tailed) (Cegala et al., 1998). More importantly, results of the within-sample and between-sample comparisons of the subscales support the validity of the MCCS as a measure of patient-physician communication and patient and physician perceptions of medical communication competence (Cegala et al., 1998).

In an additional validity study on the Medical Communication Competence Scale conducted by Cegala (2007), which included a larger participant sample, additional perceptual measures and discourse data, both patients' self-competence and physicians' other-competence reflected the dimensions of information provision, information seeking, and information

verifying. Patient self-competence alpha reliability for information provision, information seeking and information verifying were .82, .84, and .76, respectively. Physician other-competence alpha reliability for information provision, information seeking and information verifying were .85, .86, and .88, respectively. In summation, results of the validity study provide strong support for the structure of the MCCS.

For the purpose of this study, the researcher adapted the Medical Communication Competence Scale (Cegala, 2007) by removing the patient perception of physician communication and the physician-self communication assessment portions of the scale. In the researcher-adapted Medical Communication Competence Scale, patient self-competence alpha reliability for information provision, information seeking and information verifying were .81, .89, and .89, respectively. The physician other-competence alpha reliability for information provision, information seeking and information verifying were .86, .92, and .89 respectively.

RESEARCH DESIGN

SPSS PASW 18.0 was utilized in all data analysis. Basic descriptive statistics were calculated for demographic characteristics: patient age, race, sex, highest level of education completed, marital status, and yearly income. To address the hypotheses, collected data was subjected to six separate between-subject one-way ANOVA analyses. The predictor variable was the patient's frequency of health-related Internet activity, as determined by the Internet Usage Measure. The criterion variable was the physicians' and patients' perception of patient medical communication competence, as measured with the adapted Medical Communication Competence Scale (MCCS) (Cegala et al., 1998) (Appendices B and D). The criterion variable had the following three dimensions: information seeking, information provision, and information

verifying.

A one-way analysis of variance was utilized in an effort to discern differences on one independent variable—patient frequency of health-related Internet activity (high versus low)—by comparing the means and standard deviations of the dependent variable—medical communication competence—through six separate analyses. Prior to conducting the six separate analyses, the researcher categorized patients as either high Internet users ($n = 26$)—patients that indicated they used the Internet once a week, two to three times a week, or daily—or as low Internet users ($n = 51$)—patients that indicated they used the Internet two to three times per month or less. Once the patients were categorized as high Internet users and low Internet users, the researcher analyzed the patients' self-perceptions of communication competence as well as the physicians' perceptions of patient communication competence. As medical communication competence is comprised of three pertinent dimensions—patient information seeking, information provision, and information verifying—it was important to test for significant differences in each dimension, from both the patient's point of view and the physician's point of view. The motivation behind labeling patients as high or low Internet Users was to form a system by which the researcher could examine the variance of communication competence perceptions based on the frequency of Internet use, thus addressing the abovementioned hypotheses.

CHAPTER IV

RESULTS

This chapter reviews the results of the tested hypotheses for this thesis. Hypothesis 1A predicted that physicians perceive female patients with a high frequency of health-related Internet activity as displaying more information-seeking behaviors than those female patients with a low frequency of health-related Internet activity. Results from a one-way ANOVA did not reveal significant support for hypothesis 1A ($F(1, 72) = .128$, $p = .721$). Physician perception of female patient information-seeking behaviors did not vary between the two groups of Internet users (high versus low). Hypothesis 1B predicted that female patients with a high frequency of health-related Internet activity perceive themselves as displaying more information-seeking behaviors than those female patients with a low frequency of health-related Internet activity. Results from a one-way ANOVA did not reveal significant support for hypothesis 1B ($F(1,75) = 1.09$, $p = .299$). A high frequency of health-related Internet activity did not provide a measurable difference in perceptions of female patient information-seeking behaviors by physicians or the female patients themselves.

Hypothesis 2A predicted that physicians perceive female patients with a high frequency of health-related Internet activity as displaying more information-provision behaviors than those female patients with a low frequency of health-related Internet activity. Results from a one-way ANOVA did not reveal significant support for hypothesis 2A ($F(1, 72) = .451$, $p = .504$). A high

frequency of health-related Internet activity did not influence the perceptions of female patient information-seeking behaviors by physicians.   Hypothesis 2B predicted that female patients with a high frequency of health-related Internet activity perceive themselves as displaying more information-provision behaviors than those female patients with a low frequency of health-related Internet activity. Results from a one-way ANOVA revealed partial support for hypothesis 2B ($F(1, 71) = 3.42$, p = .069). Patients categorized as high Internet users ($n = 26$) reported that they displayed more information-provision behaviors during the medical appointment than did those patients labeled low Internet users.

Hypothesis 3A predicted that physicians perceive female patients with a high frequency of health-related Internet activity as displaying more information-verifying behaviors than those female patients with a low frequency of health-related Internet activity. Results from a one-way ANOVA did not reveal significant support for hypothesis 3A ($F(1, 69) = .867$, p = .355). Hypothesis 3B predicted that female patients with a high frequency of health-related Internet activity perceive themselves as displaying more information-verifying behaviors than those female patients with a low frequency of health-related Internet activity. Results from a one-way ANOVA did not reveal significant support for hypothesis 3B ($F(1, 75) = .360$, p = .550). A high frequency of health-related Internet activity did not produce a measurable impact on the perceptions of female patient information-verifying behaviors by physicians or the female patients themselves.

CHAPTER V

DISCUSSION

Although the information presented in the first portion of this project states that

Americans are increasingly turning to Internet for health information, the results of this study

show that such is not the case in the Rio Grande Valley. An area plagued by a high percentage of

indigent residents, Internet access is not readily available for many of the people in the study

area. Due to patient demographics of the study area, such as low income and limited health

literacy, it was difficult for the researcher to find high frequency Internet users. Of the 103

matching patient-physician surveys, only 77 were usable (surveys deemed unusable were lacking

pertinent information). Of the final 77 surveys, only 26 were categorized as high Internet users,

which is indicative of the fact that many residents of the Rio Grande Valley are unable to access,

understand, or utilize information from the Internet due to a variety of reasons, such as language

barriers and limited education (Quick et al., 2007). Quick, Lev, and La Pastina (2007) describe

these Rio Grande Valley residents as informational illiterate—conversely, informational literacy

is defined by the Association of College and Research Libraries (2006) as "the set of skills

needed to find, retrieve, analyze, and use information" (p. 1, as cited in Quick et al, 2007).

Therefore, for residents of the Rio Grande Valley, the provision of timely and relevant healthcare

information entails more than mere computer and Internet access. The 51 participants in this

study labeled as low Internet users may, then, have Internet access but are unable to effectively

find and utilize health information online.

Researchers believe that the high reading levels necessary for the majority of health information on the Internet cause it to be inaccessible and not practical for the majority of underserved populations (Morey, 2007). Further, functional illiteracy directly impacts health literacy, which is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Center for the Advancement of Health, 2002; Institute of Medicine, 2004, as cited in Morey, 2007, p. 31). Health literacy is not only the ability to read nor is it directly linked to years of education—it is "a complex group of reading, listening, analytical, and decision-making skills, and the ability to apply these skills to health situations" (Glassman, 2010, p. 1). The National Assessment of Adult Literacy report (2003) posits that 53% of American adults have intermediate health literacy, 22% have basic health literacy, and 14% have below basic health literacy (Kuther, Greenberg, Jin, & Paulsen, 2006, as cited in Morey, 2007).

Low health literacy has both direct and indirect consequences. Direct effects of low health literacy are non-compliance and medication errors (Glassman, 2010). Indirect effects o low health literacy include insurance complications, accessibility to health services, and poor health behaviors (Glassman, 2010). Compared to those individuals with adequate health literacy skills, individuals with limited health literacy are more likely to misunderstand health information, face difficulty following medical instructions, inappropriately or infrequently use healthcare services, have worse physical and mental health, experience higher rates of hospitalization, and have short life expectancies (Friedman, Hoffman-Goetz, & Arocha, 2006; Davis et al., 2006; Gazmararian et al., 1999; Sudore et al., 2006; Wolf, Gazmararian, & Baker, 2005; Baker et al., 2002; Baker et al., 2007, as cited in Wynia & Osborn, 2010). More importantly, low health literacy is associated

with less frequent screening for diseases, a disproportionately higher rate of disease and mortality, and an increase in use of emergency rooms as primary care (Morey, 2007).

In response to widespread low health literacy in the United States, Congress has put forth the Affordable Care Act (ACA). The ACA prescribes the use of technology for encouraging the public to partake in health-improving actions (Mark, 2011). However, Jessica Mark (2011) points out, "as we work to expand access to the Internet for all Americans, we must work in parallel to improve the quality and usability of health information on the Web. For many information seekers, the Internet can be stressful and overwhelming—even inaccessible" (pg. 1). As Internet-based health information and services evolve, website designers and health professionals are challenged to find better ways to engage the public in more meaningful ways (Mark, 2011). For example, the United States government developed *Health Literacy Online: A guide to writing and designing easy-to-use health websites*, which is a research-based guide to designing health-based websites for Americans with low literacy skills and limited Internet experience. With the use of this guidebook, its authors "hope to bridge the worlds of health literacy and digital literacy, and to integrate these goals into the healthcare reform movement" (Mark, 2011)

CHAPTER VI

LIMITATIONS AND FUTURE RESEARCH

Although the results of this study were deemed only somewhat significant, they provide

meaningful information for the growing body of research regarding patient medical

communication competency behaviors. The implications of the findings from this study will be

discussed in the next chapter, entitled *Implications*. However, a number of limitations must first

be addressed. For example, the living conditions and the healthcare environment in the Rio

Grande Valley of Texas is harshly different than in other areas of the United States due to

patients' low socioeconomic status, amplified health disparities, and low levels of educational

achievement. Second, due to factors such as limited resources, the rate of computer adoption for

Hispanics living in the United States is much smaller than those of non-Hispanic households

(Morris & Ogan, 1996, as cited in La Pastina & Quick, 2004). As such, the frequency of health-

related Internet activity by patients in the RGV is much lower than may be found in other

communities in the United States. Thirdly, physicians are not trained to recognize patient

medical communication competency behaviors, therefore they may not be attuned to recognizing

the behaviors when they are displayed. Finally, this study is limited by the low number of patient

and physician surveys. Had the study been carried out over a longer period of time, the

researcher may have found an increase in the number of patients with high frequencies of health-

related Internet activity, which would have provided more revealing statistical results. In the

section below, the researcher provides a more in-depth examination of Internet access and health disparities in the Rio Grande Valley and the ways in which they limit this study.

HEALTH IN THE RIO GRANDE VALLEY

This study took place in highly populated cities of the Rio Grande Valley of Texas. The Rio Grande Valley (RGV) borders the United States and Mexico along a 2,000-mile stretch (Ward, 1999, as cited in La Pastina & Quick, 2004). The Texas Rio Grande Valley is comprised of four counties—Hidalgo, Cameron, Willacy, and Starr—and has a population of more than one million people. The majority of individuals living in the Rio Grande Valley are Hispanic, varying by county from 85% to 98% (Bowden et al., 2006). Residents of this area are blighted by low socioeconomic status, various health problems, and low levels of educational (La Pastina & Quick, 2004). A lack of money, insurance and transportation, and language and cultural barriers prevent residents of the RGV from accessing proper healthcare (Bowden et al., 2006). For example, in the Texas Rio Grande Valley (RGV), one of every three children and adults are uninsured (U. S. Census Bureau, 2005, as cited in Reagan & Pagán, 2007). Health problems that amount from the circumstances in which lower socioeconomic individuals reside, such as residents of the RGV, can be described as health disparities, which are "differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups" (National Institutes of Health, 2007, as cited in Morey, 2007, p. 24).

In 2000, 34% of adults and children living in the Texas Rio Grande Valley were uninsured while only 25% of Texas residents and 14% of Americans were uninsured (U. S. Census Bureau, 2001, as cited in Warner & Jahnke, 2003). For all previously insured border

residents under the age of 65, uninsurance increased by 7% (from 52% to 59%) from 2001 to 2005 (Bastida et al., 2008). During those four years, border residents earning more than $30,000 per year experienced the most dramatic loss of insurance coverage, which more than doubled (14% to 32%) (Bastida et al., 2008). During this same time period, healthcare costs in the United States grew by approximately 60% (Claxton, Gabel, Gil, et al., 2006, as cited in Bastida et al., 2008). As a result, "existing disparities in healthcare access will continue to undermine the health status of the [Rio Grande Valley's] population unless major health care policy reforms are initiated to promote greater accessibility to U.S. healthcare" (Bastida et al., 2008, p. 1994).

Although there has been an increase in availability of free or low-cost healthcare services for residents of South Texas, the "problems of the uninsured remain more persistent and intense in [the Texas Rio Grande Valley] than anywhere else in the nation" (Warner & Jahnke, 2003, p. 3). An underlying goal of this study was to identify and expand upon one small facet of effective healthcare—patient communication competency—in the hopes of one day developing ways in which to improve healthcare services in the Rio Grande Valley. By identifying discrepancies in patient communication competencies and implementing a tool such as Internet-based education materials, healthcare providers may one day be able to decrease the healthcare disparities seen in the Texas Rio Grande Valley.

DIGITAL DIVIDE

While the many merits of technological innovations such as the Internet are lauded amongst scholars, the adoption of computers has actually been a slow process among American households (Perse & Dunn, 1998, as cited in La Pastina & Quick 2004). Due to factors such as limited resources, the rate of computer adoption for Hispanics living in the United States is much

smaller than those of non-Hispanic households (Morris & Ogan, 1996, as cited in La Pastina & Quick, 2004). For example, in 2001, approximately 60.8% of non-Hispanic households in the United States had a computer at home and 42.5% connected to the Internet while only 35.3% of Hispanic households had a computer and 17.5% had access to the Internet (Census, 2001).

However, Quick et al. (2007) posit that "differences between the rate of adoption and Internet usage is likely more pronounced in areas that have traditionally suffered from undercount in the U. S. Census, such as the Lower Rio Grande Valley on the Texas-Mexico border" (p. 1). "Considering the low socio-economic indicators for that region, it is fair to assume that a gap between Hispanics in that region and the rest of Texas and the nation will probably be greater, placing that particular population at a greater disadvantage within a society increasingly reliant on information technology" (La Pastina & Quick, 2004, p. 3). A further dilemma is the lack of knowledge about how to use information found on the Internet once access is gained. It is not only the lack of access keeping patients from utilizing Internet-based health information and education tools—the biggest challenge lies in simply educating patients about available information and how they can use it (Warner, 2011, as cited in Dolan, 2011). As such, the lack of active Internet users found in this study aligns with previous research findings and Internet use statistics in the Rio Grande Valley.

But, a thorough exploration of media use among Hispanics will help leaders in the United States government to develop policies that can help minimize the persistency of the digital divide (La Pastina & Quick, 2004). "In fact, only through explorations such as this will we understand the degree to which Hispanics benefit from current technological advances and available infrastructures" (La Pastina & Quick, 2004, p. 4). Kuttan and Peters (2003) assert that the Internet, as an avenue for health information, employment opportunities, and overall self-

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betterment, will improve the lives of Hispanic residents living in the Rio Grande Valley (as cited in Quick et al., 2007). Yet, "without the basic services that are increasingly available via the Internet, such as health information, the gap between residents with and without Internet access will continue to widen" (Quick et al., 2007, p. 6). Moreover, patients with access to health information can conduct researcher prior to their medical appointment whereas patients without Internet access are unable to take advantage of these resources. As a result, patients with Internet access are likely to feel more competent about their health and subsequently are likely to ask more questions" (Quick et al., 2007, p. 6). Therefore, it is pertinent that researchers not only explore Internet use among residents of the Texas Rio Grande Valley, but that they also develop methods by which to overcome the limitations set forth by the historical inaccessibility of the Internet as well as create educational tools to assist community members with using the Internet and applying the information found on it.

CHAPTER VII

IMPLICATIONS

Although increased access to technology is pertinent to a population's ability to obtain, process, and understand health information, additional forms of traditional communication may assist patients to retain information and in turn make good health decisions. Such forms of traditional communication include printed materials, media campaigns, community outreach efforts, and interpersonal communication (www.healthypeople.gov, 2011). Therefore, the researcher postulates that medical communication competence training will assist with the increase of health literacy amongst residents of the Rio Grande Valley and the United States as a whole.

MEDICAL COMMUNICATION COMPETENCE TRAINING

Previous research on communication in the healthcare setting has shown that information exchange is the foundation of patient-physician communication (Cegala et al., 1998). "Doctors need information from patients to determine an accurate diagnosis and effective treatment plan, and patients need information about their medical problem and the rationale and procedures for its treatment" (Cegala et al., 1998, pp. 263-264). A study conducted by Cegala, McNeilis, McGee, and Jonas (1995) found that patients are concerned with their own healthcare and the pressure to adapt to unfamiliar surroundings and procedures forces them to have self-focused

thoughts and feelings. Therefore, patients may benefit from medical communication behavioral skills training "designed to help them organize and deliver information relevant to medical [appointments]" (Cegala et al., 1995, p. 196). Further, the communication behavioral skills training process may aid patients and doctors in recognizing *when* it is important to apply their learned skills, which in turn may lead to a more effective alignment and accommodation of each party's goals and needs (Cegala et al., 1995).

The patient medical communication behavioral skills training process is, however, multifaceted and must be meticulously attended to. Patients and physicians should collaborate on the creation of a self-managed health program in which the patient works to improve his/her health through "education, monitoring, adherence to evidence-based guidelines and active involvement [in] the decision-making process with the healthcare team" (American Healthways, Inc., 2004, p. 29). The purpose of the self-managed health program is to encourage the patient to become informed about his/her health condition, increase the patient's ability to competently communicate during the medical appointment, and inspire him/her to take an active role in the treatment process.

As posited by the United States Department of Health and Human Services, the strategic combination of health information technology tools and effective health communication processes may lead to improved healthcare quality and safety, increased healthcare efficacy and public service delivery, an improved health information infrastructure, the facilitation of clinical and consumer decision-making, and the ability to build the public's health skills and knowledge (www.healthypeople.gov, 2011). When learning to better communicate with their physician

during the medical appointment, patients are also becoming educated about their healthcare

situation. And, availing oneself of the innumerable health resources on the Internet gives access

to many health educational opportunities.

Correspondingly, patient education will lead to "improved patient recognition of

important symptoms, more informed decisions by patients, positive patient behavior changes,

patients taking a more active role in their care, a strong foundation to facilitate self-care, and

improved clinical outcomes" (American Healthways, Inc., 2004, p. 15). Then, when education

takes place, the patient becomes more communicatively competent and the patient-physician

relationship is reinforced. More importantly, as the patient takes an active role in the healthcare

situation, and the patient's medical communication competence is enhanced, more successful

health outcomes may result. For example, "the frequency and quality of physicians' explanations

of treatment rationale, benefits, and options and patients' questions or expressed concerns about

side effects, effectiveness, and risks would likely have considerable relevance to patients'

compliance" (Cegala, 2006, p. 127).

But, previous research has neglected to examine why or how communication training

elicits positive effects on patient discourse and health outcomes (Cegala et al., 2004). Most

studies on communication behavioral skills training have focused solely on patients' information

seeking skills and have neglected to examine information provision and verifying skills

(Anderson & Sharpe, 1991; Cegala & Lenzmeir Broz, 2003). Yet, researchers have found that

most of the "diagnostic and treatment decisions primary care physicians make are based on what

information the patient provides about symptoms, previous treatments and general medical

history" (Cegala et al., 2004, p. 302). Therefore, more research is needed in order to develop

communication competency training that includes both the physician and the patient, and the

patient's ability to display information provision and verifying behaviors. Such research will be especially useful if it contextualizes provider-patient communication within relevant organizational, political, economic, and cultural boundaries (Cegala, 2006, p. 127). For instance, this study was conducted in the Texas Rio Grande Valley, a historically underserved low-income area on the border of Texas and Mexico. The typically abysmal health status of the majority of residents in this area requires the analysis of physician-patient communication to be contextualized by cultural, economic, political and educational parameters, as discussed in the previous chapter.

In conclusion, the development of a patient self-managed health program is reliant upon successful patient-physician communication. "Understanding of doctor-patient communication requires continued close attention to the actual interaction between doctors and patients during medical consultations" (Cegala et al., 1998, p.p. 261-262). More specifically, close attention must be given to the ways in which patients view their communication roles during medical appointments (Cegala et al., 1995). Despite the lack of prior research into patient interpretation of their role as communicators in the medical appointment, one can reasonably conclude that the effects of communication behavioral skills training are due in part to patients being better prepared to engage in information exchange with the physician during the medical appointment (Cegala et al., 2004). Thus, the Internet can potentially be used to introduce educational health materials that will help to enhance patient medical communication competence behaviors and reinforce the patient's self-managed health program.

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APPENDIX A

APPENDIX A

INTERNET USAGE MEASURE

The purpose of this questionnaire is to obtain information about your use of the Internet to search for healthcare information. Please answer all questions to the best of your ability. Your responses will not be shared with anyone other than the researcher. Your name will never be associated with the information you provide below. Please circle the most appropriate response. Only mark one response for each question.

Do you use the Internet to search for healthcare information?		
	Yes	No
Specifically, have you ever used the Internet to look for…		
information about a specific disease or medical problem?	Yes	No
information about a certain medical treatment or procedure?	Yes	No
information about hospitals or other medical facilities?	Yes	No
information about prescriptions or over-the-counter drugs?	Yes	No
information about any other health issue?	Yes	No

Thinking about all the types activities you can do on the Internet, about how often do you…							
go online and do something related to health?	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
check or send email messages about health?	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
research healthcare information?	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
visit sites or groups related to healthcare?	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all

How frequently do you access the Internet from the following places…							
Home (including home office)	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
Work	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
School	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
Public place (ex. Library, Internet café, etc.)	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all
Other Please list:_____	Daily	2-3 times a week	Once a week	2-3 times a month	Once a month	Less than once a month	Not at all

APPENDIX B

APPENDIX B

MEDICAL COMMUNICATION COMPETENCE SCALE –

PATIENT SELF-COMPETENCE SCALE

The purpose of this questionnaire is to obtain your views about communication during medical appointments with your physician. Please answer all questions to the best of your ability. Your responses will not be shared with anyone other than the researcher. Your name will never be associated with the information you provide below. Please circle the most appropriate response. Only mark one response for each question.

During medical appointments, I do a good job of:							
Presenting important history that has to do with my medical problem.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Describing the symptoms of my medical problem.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Explaining my medical problem.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Letting the doctor know when I don't understand something.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Letting the doctor know when I need him/her to repeat something.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Repeating important information to make sure I understand correctly.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Asking the doctor to explain terms I didn't understand.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Asking the doctor all the questions that I have.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Getting the answers to my questions.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Getting all the information I need.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree

APPENDIX C

APPENDIX C

PATIENT DEMOGRAPHICS

The last section of the questionnaire contains a series of questions about your demographic characteristics. Please answer these personal questions. No one will ever associate these responses with your name. Please circle the most appropriate answer choice.

What is your sex?	
Male	
Female	
What is your age range?	
Under 18	42-53
18-29	54-65
30-41	66+
What is your race?	
American Indian or Alaska Native	White
Asian	Hispanic or Latino
Black or African American	Other race
Native Hawaiian or Other Pacific Islander	
What is your primary language (e.g., the one you speak most of the time)?	
English	Spanish
Other	
Please indicate the highest level of education you have completed.	
Elementary school (1st - 8th grade)	Master's Degree (MA, MBA, MFA, MS)
High school or equivalent (9th - 12th grade)	Doctoral Degree (PhD)
Vocational/ Technical School	Professional Degree (MD, JD, etc.)
Some college	Other
College Graduate (4year)	
What is your current marital status?	
Married	Single
Divorced	Widowed
Living with another	
What is your total yearly household income, before taxes, in U.S. dollars?	
Under $20,000	$80-109,000
$20-49,000	Over $110,000
$50-79,000	

APPENDIX D

APPENDIX D

MEDICAL COMMUNICATION COMPETENCE SCALE –

PHYSICIAN OTHER-COMPETENCE SCALE

The purpose of this questionnaire is to obtain your views about communication during medical appointments with your patients. Please answer all questions to the best of your ability. Your responses will not be shared with anyone other than the researcher. Your name will never be associated with the information you provide below. Please circle the most appropriate response. Only mark one response for each question.

During the medical appointment, the patient did a good job of:							
Presenting important history associated with his/her medical problem.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Explaining symptoms associated with his/her medical problem.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Answering my questions thoroughly.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Letting me know when he/she didn't understand something.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Asking me to explain terms he/she didn't understand.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Letting me know when I needed to repeat something.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Asking questions about his/her medical problem.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Pursuing answers to his/her questions.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree
Asking appropriate questions.	Strongly Agree	Agree	Slightly Agree	Not Sure	Slightly Disagree	Disagree	Strongly Disagree

APPENDIX E

APPENDIX E

PHYSICIAN DEMOGRAPHICS

The last section of the questionnaire contains a series of questions about your demographic characteristics. Please answer these personal questions. No one will ever associate these responses with your name. Please circle the most appropriate answer choice.

What is your sex?	
Male	
Female	
What is your age range?	
Under 18	42-53
18-29	54-65
30-41	66+
What is your race?	
American Indian or Alaska Native	White
Asian	Hispanic or Latino
Black or African American	Other race
Native Hawaiian or Other Pacific Islander	
What is your primary language (e.g., the one you speak most of the time)?	
English	
Spanish	
Other	

BIOGRAPHICAL SKETCH

Kelli Kayanne Owen was born on June 1, 1986 in Bryan, Texas. Owen spent her formative years in Arkansas and graduated from Sharyland High School in Mission, Texas in 2004. She received a Bachelor of Arts in Communication in 2008 from Trinity University in San Antonio, Texas. Additionally, Kelli received certification in international mass media in 2007 from the Danish Institute of Study Abroad in Copenhagen, Denmark. Kelli Owen earned a Master of Arts in Communication with a concentration on Healthcare Public Relations from the University of Texas-Pan American in May 2012.

Kelli Owen serves as the Media Relations Coordinator for Doctors Hospital at Renaissance in Edinburg, Texas. She enjoys hunting, fishing, and attending Texas Country Concerts in the Rio Grande Valley. In her free time, Kelli is busy planning her wedding with Christopher Quin. They will be wed in June 2012. Kelli can be reached at 5111 N. 10th Street #268, McAllen, Texas 78504 or via email at kelliowen@gmail.com.