IS A VIDEO WORTH MORE THAN TWO-HUNDRED WORDS? TESTING THE UNCERTAINTY REDUCING CAPABILITIES OF PHYSICIAN VIDEO BIOGRAPHIES THROUGH THE LENS OF MEDIA RICHNESS THEORY

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ABSTRACT

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Choosing a primary care physician to visit for the first time is an important decision, one that healthcare systems do not particularly make easy for prospective patients to make solely via the limited information they publicly provide on their websites. Thus, without knowledge from others, a new patient may have much uncertainty about the physician he or she chooses before the first consultation. Guided by predictions derived from media richness theory (Daft & Lengel, 1984), this study added videos to primary care physicians' biographies to test whether they are able to reduce uncertainty more than verbatim, traditional text biographies. Additionally, through predictions generated from uncertainty reduction theory (Berger & Calabrese, 1975) it was proposed that biographies containing similarity inducing information would reduce uncertainty more than those biographies containing information of a more professional (i.e., dissimilar) nature. Three-hundred-and twenty adult female participants completed an online experiment where they were exposed to two biographies of different doctors with different mediums and different kinds of information (either professional or personal). Results revealed that: perceived similarity was related to reductions in uncertainty; video biographies were related to greater uncertainty reduction, as well as greater levels of anticipated care quality and patient satisfaction; and in a simulated decision-making task participants chose the physician with whom they perceived the greatest level of similarity. Participants' opinions regarding the level of importance they place on knowing various pieces of information when in the decision-making

phase, as well as their thoughts for improving video biographies, were also revealed. Theoretical implications for the role of uncertainty reduction and media richness in the context of choosing a new physician are explored. Practical implications for how healthcare systems can use these results to help improve the physician biographical offerings they may currently be providing prospective patients are also discussed.

To my wife

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INTRODUCTION

Uncertainty has been a key construct in the field of communication for decades, permeating many interactions we have with individuals (Knobloch, 2010). Uncertainty presents itself especially when people are unable to predict how a communicative encounter might proceed with a new acquaintance, or why that new acquaintance acts the way he or she does. We combat our inabilities to predict by gathering information about others to reduce this uncertainty and help the communicative encounter proceed, or even be less awkward (Berger & Bradac, 1982). The ways individuals now have at their disposals to find ways to reduce their uncertainty are greater than ever before as the Internet has opened-up a digital world for users to gather information (Antheunis, Valkenburg, & Peter, 2010). For example, approximately 212 million Americans are active online, and for the majority of people who own a cell phone, that phone is now a smart phone that can access the Internet (Nielsen, 2013).

Created well before the advent of the Internet, uncertainty reduction theory (URT; Berger & Calabrese, 1975) continues to endure and guide researchers in their search for uncovering and explaining new ways to help individuals reduce their uncertainty about others in numerous different contexts. Uncertainty reduction surrounds individuals in their quests for finding romantic partners online (Gibbs, Ellison, & Lai, 2011). It also permeates people's decisions of whether or not to conduct business with others online (Flanagin, 2007; Pavlou, Liang, & Xue, 2007), and even with whom individuals will trust their money management to online (Suh & Han, 2002).

An even more vital decision for which use of the Internet has become integral in helping people reduce their uncertainty is in finding new healthcare providers. Data from the Health Information National Trends Survey (HINTS) reveals that approximately 36% of people in the

last 12 months have used the Internet to look for a new healthcare provider (National Cancer Institute, 2012), and more than half of those sampled by Perrault (2013) stated they use the Internet to seek information about new primary care doctors before deciding on one to visit. Primary care physicians are usually the first level of medical care with whom patients interact, because for most insurance carriers primary care doctors act as the gatekeepers to higher priced specialists (McCall, 1995). Therefore, finding a new primary care physician provides an important context to study the construct of uncertainty, and may inform potential ways to reduce it using different kinds and presentations of information provided via the Internet.

Intuitively, the additional kinds of information that can be gathered on the Internet likely have a lot more to offer information seekers, such as more richness and more cues (Daft & Lengel, 1984; Severin, 1967), than the uncertainty reducing information found via more traditional media (e.g., printed physician directories). For example, one additional piece of information becoming more prevalent on the Internet is video introductions of physicians (Perrault, 2014). In the current study these novel video introductions of physicians will be tested against traditional written presentations of the same information to determine if videos offer any greater uncertainty reducing potential.

Formative research, specifically assessing target audience members' preferences for information when deciding on a new physician, is also lacking. Therefore, this study seeks to determine the kinds of information potential patients find important to know during the physician selection process in the hopes of helping healthcare systems provide more audience centered information about their physicians that prospective patients will find useful. This study also seeks to determine what prospective patients would like to see reflected in video introductions of physicians. Producing videos for use on healthcare systems' websites can be a costly, and time

consuming, endeavor. Without formative research to determine what prospective patients would like to see included in them could lead to video offerings that provide little help for prospective patients in making their physician decisions.

First, the underlying constructs and theories used to frame this research will be detailed. Then, the context of, and difficulties with, finding a new physician will be discussed, followed by the study's hypotheses and research questions. Methods and results will follow, concluding with a discussion of how the study's findings help to extend theory as well how they can help healthcare systems improve the biographical offerings they may currently be presenting to prospective patients.

LITERATURE REVIEW

Uncertainty

The construct of uncertainty is one that communication researchers have been interested in studying for decades due to its sheer frequency of occurrence when individuals meet, or anticipate meeting, new acquaintances (Knobloch, 2010). When we interact, or anticipate interaction, with others for the first time we are inherently faced with a prediction problem. We have little idea about the person's beliefs, attitudes, preferences, or even how that person might behave (Berger & Bradac, 1982); we have high uncertainty.

Uncertainty can be divided into behavioral uncertainty and cognitive uncertainty (Berger & Bradac, 1982). Behavioral uncertainty is the extent to which behavior is predictable within a given situation (Berger & Bradac, 1982). For the context of this study, behavioral uncertainty will not be a construct of interest because the doctor/patient interaction is usually one that is a formal role situation; how the initial consultation would proceed from a behavioral standpoint is likely fairly predictable (Berger, 1979). A patient is usually visiting a doctor for a specific reason (e.g., to seek treatment for some kind of ailment, to get tested for a disease, receive a physical). Therefore, in the interaction, the actual behavior and communication script of the doctor is likely to follow a predictable pattern - the doctor would ask the patient about his or her ailment, possibly do a physical examination, and try to come to a diagnosis (Deveugele et al., 2004; Innes, Campion, & Griffiths, 2005). However, uncertainty is not just about predicting other people's behaviors, but also explaining them; offering the "why" and the reasons behind their behaviors (Berger & Gudykunst, 1991). This *explanation* of the behavior of the other interactant gets closer to the cognitive aspect of uncertainty. Cognitive uncertainty is the uncertainty individuals have about others' beliefs (Berger & Bradac, 1982), and this is the kind

of uncertainty that will be of primary concern in this study. Cognitive uncertainty commonly leads to anxiousness and tension in individuals until it can be resolved (Booth-Butterfield, Booth-Butterfield, & Koester, 1988; Kuhlthau, 1993). When cognitive uncertainty can be decreased, people are more likely to say they know and understand each other better (Berger, 1979).

Individuals usually want to seek and gather information about others to reduce their uncertainty when they anticipate interactions will take place in the future (Berger & Calabrese, 1975; Berger & Gudykunst, 1991; Kuhlthau, 1993). Also, low power individuals (e.g., patients) are likely to want to reduce uncertainty especially with high power individuals (e.g., doctors) because high power individuals are usually in the position to provide rewards to the lower power individuals (Berger & Gudykunst, 1991). When people believe that others can satisfy certain needs for them (i.e., they have incentive value), it is expected that efforts will be made to find out more about the person with the high incentive value (Berger, 1979). For example, in the context of choosing a new physician, that individual will likely feel as though a potential physician can provide positive rewards to him or her in the form of making him or her feel better when he or she is ill and needs help, thus the individual will likely want to reduce uncertainty surrounding this future interaction. This desire to seek information about a primary care physician was shown in Perrault's (2013) study where 71.4% of individuals surveyed stated they seek information about new doctors before deciding on one to visit.

There are many ways people can seek information about a potential new acquaintance to reduce their uncertainty. Individuals can seek information through passive means (e.g., read information about the interactant), active means (e.g., ask information from a person who has dealt with the target), or interactive means (e.g., seeking information directly from the target)

(Berger, 1979; Berger & Bradac, 1982). Perrault (2013) found that approximately 94% of his participants stated they would seek information about a new primary care physician via an active means (i.e., asking family members who have dealt with a potential physician directly), but more than half (51.2%) also stated they would seek information via passive means (i.e., reading information in a physician's online biography provided by the healthcare system). However, not all information that is sought is created equally.

Similarity to reduce uncertainty. The kind of information people seek and receive likely has different uncertainty reducing capabilities. In their uncertainty reduction theory (URT), Berger and Calabrese (1975) posit one way uncertainty can be reduced is through the recognition of similarities between persons. "Similarities between persons reduce uncertainty, while dissimilarities produce increases in uncertainty" (Berger & Calabrese, 1975, p. 106). People can perceive similarities between themselves and others across several dimensions (McCroskey, Richmond, & Daly, 1975). We can be physically similar to someone in appearance, have similar backgrounds (e.g., went to the same college, are at the same level of social status), or have similar attitudes and values as another person (e.g., similar ways of thinking and acting) (McCroskey, McCroskey, & Richmond, 2006).

In the case of finding a new physician, it is probable the patients and the doctors will have different personal histories (i.e., doctors went through years of medical schooling and training), therefore patients would likely not have the opportunity to perceive much of this background similarity. Instead, patients may potentially perceive attitudinal similarities with doctors (e.g., find similarities between themselves and the doctors in what they like and value), and thereby reduce uncertainty. Prisbell and Andersen (1980) found this inverse relationship in their samples, where greater attitudinal similarities were related to reduced levels of uncertainty.

Antheunis et al. (2010) also found this same inverse relationship between people who just met via social networking sites online.

It is possible for these perceptions of similarity to be determined pre-acquaintance (Sunnafrank & Miller, 1981). In the context of finding a new physician a potential patient could be exposed to a short biography about the physician before the first consultation. In their study of physician selection, Perrault and Silk (2013) found that as participants perceived greater similarities between themselves and physicians through the reading of biographies that offered personal information about the physician, versus biographies containing solely professional information, uncertainty was reduced. Having personal information about the physician in his or her biography likely revealed to the participants that the doctor, while able to heal patients, is still another human being who has a life outside of medicine, and also similar to the patients who are seeking his or her services (Kulich, Berggren, & Hallberg, 2003). "It is not until the actors communicate in ways which are less constrained by social rules and norms that observers are likely to feel that they have reliable information about the persons *as individuals*" (Berger, 1979, p. 125 [emphasis in original]). With this line of reasoning the following hypothesis is derived:

Hypothesis 1: Perceptions of similarity will be positively related to levels of uncertainty reduction.

While it has been hypothesized that uncertainty reduction can occur through the recognition of similarities between interactants, it may be possible that this uncertainty can be reduced even more by changing the medium in which the uncertainty reducing information is presented. The following section details how video might be able to reduce uncertainty even more than information presented solely via text.

Video as an Added Uncertainty Reduction Tool

Berger and Bradac (1982) suggest that witnessing nonverbal behaviors of others (e.g., hair color, dress, facial expressions, the way someone speaks) can help individuals to reduce their uncertainty of others more than text-only information. These nonverbal behaviors are all pieces of information that could be gleaned from the medium of video. One prominent media theory, media richness theory (Daft & Lengel, 1984) provides insight for why the addition of videos to doctors' online biographies might offer even greater reductions in uncertainty than biographies that just offer textual information.

Media richness theory. Media richness theory (Daft & Lengel, 1984) hypothesizes that when senders wish to send messages, richer media (e.g., face-to-face, video conferencing) should be more effective for the receivers than leaner media (e.g., text-only emails, letters). A medium can be conceptualized somewhat like "a container for information that can be characterized by how much information it can convey" (Sitkin, Sutcliffe, & Barrios-Choplin, 1992, p. 566). Richer media, like videos, can carry much more information (e.g., both visual and audio cues to enhance understanding), than simply a written message alone (Daft & Wiginton, 1979; Daft & Lengel, 1984; Severin, 1967). Videos can contain multiple nonverbal cues, defined as, "all potentially informative behaviors that are not purely linguistic in content" (Hall, 2007, p. 626). These cues can be related to body movements (i.e., kinesics), such as posture, facial expressions, and eye movement. They can also reveal vocal qualities (i.e., vocalics), such as pitch, loudness, speed variations, and tonal qualities (Burgoon, Buller, & Woodall, 1996), thereby helping a prospective patient determine if a possible doctor would be easy to understand or even if the doctor might have an accent making comprehension of his or her words difficult. Videos can also reveal physical attributes of a person (e.g., hair or eye color) as well as artifacts (e.g.,

jewelry, clothing choice), which could help a prospective possibly determine a potential physicians' ethnicity, marital status, or physical attractiveness.

Richer media are also hypothesized to work better for conveying complex information to audiences (Daft & Lengel, 1984; 1986). In a field as complex and as difficult to navigate as healthcare can be for some individuals, it may be more advantageous to hear and see a physician speak about his or her credentials and ideas about patient care on video than simply reading the same information in a text biography. For example, Perrault and Silk (2013) found in their study that nearly 32% of participants said they would like to know what the doctor's office looked like before choosing a physician to visit, and 71% said they would like to know how a doctor treats patients in a consultation. A video could actually show footage of how the doctor interacts with patients. For example, does the physician sit close or far away from a patient (i.e., proxemics) or touch a patient in a caring or forceful manner (i.e., haptics) (Burgoon et al., 1996)? While this information can easily be conveyed via video, it would likely be difficult to deliver all of this information solely through text. This added video representation of the doctor therefore helps to increase a sense of realism in the perceiver (Miller, 1957), showing that this physician is a real person with whom the prospective patient could potentially now see him or herself participating in a consultation.

Previous tests of media richness. Even though media richness theory was created before the invention of the Internet and online videos, there is not a large body of research that rigorously tests it, and the studies that do exist are usually conflicting and dated (Moore, Burton, & Myers, 1996). Originally media richness theory was designed for the context of decision-making within organizations and between co-workers, where there is the opportunity for feedback between interactants (Daft & Lengel, 1984). As a result, tests of media richness theory

are usually decision-making tasks in multiple-person teams, similar to decision-making tasks that occur in organizations. For example, researchers have studied whether task performance improves when collaborating over "richer" modes of communication such as video conferencing versus text-based computer-mediated communication (Dennis & Kinney, 1998), as well as comparisons between text, audio, video and face-to-face communication (Suh, 1999), finding mixed results on the theory's propositions. While the current study is a decision making task (i.e., the participant will need to decide which physician she wants to visit after viewing two different physician's biographies), there is no communication between the participant and anyone else (i.e., information is only flowing in one direction, from the stimulus materials to the participant). Tests of media richness where communication via different modalities flows in only one direction from the stimuli to the receiver, while not very numerous, show more promising results for the theory.

For example, Cushman (1973) found that both visually reading and hearing a story being spoken at the same time led to higher levels of recall than either method of information transmission individually. With respect to comparing the addition of videos with text material, Brashears and Baker (2008) found in their study of dairy processing instruction with agriculture students that students in the condition containing audio/visual materials had greater knowledge gain than those in the text-only condition. Additionally, they found a small difference where students in the audio/visual condition were more satisfied with the instruction than those in the text only condition (Brashears & Baker, 2008). Another study found similar results with respect to employee testimonials from corporations. Researchers had participants view one of two versions of a company's website: one where there was a text testimonial with a picture of the person who supposedly wrote it, and one where there was a video of the person actually

delivering the testimonial. Participants in the condition where they viewed the video testimonial had higher levels of attractiveness toward the organization and found the information to be more credible than those who viewed the text-only version of the testimonial (Walker, Field, Giles, Armenakis, & Bernerth, 2009). A study testing the use of text versus video cases in educating medical students also found significant positive results for using the video over a text explanation (Balslev, deGrave, Muijtjens, & Scherpbier, 2005). Medical students were either given a text description of a patient's symptoms or a video showing the patient with these symptoms. Students in the video condition showed significant improvements in critically evaluating the case than those presented with only the text description (Balslev et al., 2005). An exhaustive search of the literature found no studies using uncertainty as an outcome measure.

It is unclear from these few studies that directly test audio/video materials against text material just how similar in content the two versions were. For example, the Walker et al. (2009) study used four videos, with four different people of various races and genders, for their video condition, and indicated that their scripts were each different lengths. The Brashears and Baker (2008) study also does not clearly indicate how similar the video versus text conditions were to each other. Therefore, it is possible participants may have been receiving additional factual content in the audio/visual condition which may have led to the increased knowledge gain. With these limitations present in previous studies, the current study aims to make the video, and corresponding text biographies, functionally equivalent in content by having the text presented to participants be verbatim transcripts of the videos. Given this prior research, and predictions generated from media richness theory that the addition of videos to textual information may offer greater amounts of uncertainty reducing information to individuals (e.g., how the doctors verbally speak and communicate), the following hypothesis is proposed:

Hypothesis 2: Biographies containing videos will reduce uncertainty to a greater extent than text-only biographies.

Importance of Uncertainty Reduction for Healthcare Systems

Healthcare systems would likely want to reduce uncertainty for new patients surrounding their physicians to try and limit any amount of doctor shopping that may take place (i.e., visiting multiple doctors for the same case of illness). Doing so would waste physicians' time and system resources (Demers, 1995), and would not be cost effective. Helping patients reduce uncertainty surrounding new physicians can also have additional benefits for healthcare systems. URT (Berger & Calabrese, 1975) posits that as uncertainty is reduced people will tend to like one another more. Douglas (1994) found this relationship; as uncertainty was reduced among strangers, liking tended to increase. Following this line of reasoning, research in the medical context has found that the more people like their physicians, the higher the degree of satisfaction they have with their care (Hall, Horgan, Stein, & Roter, 2002; Jayanti & Whipple, 2008), and people who are more satisfied with their care have been found to go to the doctor more often (Roghmann, Hengst, & Zastowny, 1979). Additionally, finding a doctor a person likes to continue seeing, known as continuity of care, also leads to better health outcomes for patients such as decreased hospitalizations (Cabana & Jee, 2004) and greater utilization of preventive care services (Ettner, 1999). Because healthcare systems and physicians in the United States are ultimately businesses, more frequent customers (i.e., patients) means more revenue, and more satisfied customers are then more likely to possibly refer others. In an era of increased pressures on healthcare systems and clinicians to focus much more of their time on market share and efficiency, it is important that healthcare systems find ways to help patients easily find care that focuses not only on treatment quality but also the human interaction of the care delivery (Gelb-

Safran et al., 2001). This human interaction-based aspect of care could be facilitated by the richness and realness inherent in the medium of video introductions. Therefore, given this line of reasoning, and the theoretical rationale presented previously regarding the uncertainty reduction capabilities of videos, the following hypotheses are proposed:

Hypothesis 3: The perceived quality of medical care with the physician will be greater for biographies containing videos than biographies only containing text.

Hypothesis 4: Anticipated patient satisfaction with the physician will be greater for biographies containing videos than biographies only containing text.

Similarity and Physician Choice

Beyond just the technical competence and expertise that individuals state is crucial when seeking a family medicine physician (Fung et al., 2005), the personal connection an individual feels with a potential doctor is also important (Stewart, Hickson, Pechmann, Koslow, & Altemeier, 1989). Researchers find that people tend to become friends with others who are similar to themselves (Hamm, 2000; Urberg, Degirmencioglu, & Tolson, 1998), and Rogers and Bhowmik (1970) proposed that individuals want to communicate more with others who are similar to them on a number of different attributes. In the case of physicians, patients are not necessarily seeking a friend per se, but they do generally want a physician with an approachable, relatable disposition with whom they feel comfortable communicating (Gelb-Safran et al., 2001; Kulich et al., 2003). This is because going to the doctor inherently involves having to disclose highly personal, sometimes embarrassing, information about oneself; information that is usually not widely intended for public discussion (Stevenson, 1960). Therefore, given comparable levels of expertise among physicians to choose from, it is possible that patients might want to select a physician with whom they feel some kind of similarity to disclose their highly personal

information. In the only simulation study of its kind where participants read physician biographies and had to choose a physician they would want to receive care from, 83% of participants chose to visit the physician with whom they perceived the greatest similarity (Perrault, 2013). However, this study had a significant limitation with regards to its biography manipulations. The similarity induction may have been confounded with biography length; the biographies to which participants were exposed differed in the amount of information offered. Perrault's (2013) study also used students as participants. The degree of similarity that could be perceived between teenage students and an adult physician described with children is likely to not be as strong as if the prospective patients were around the same age as the physician they were seeking. To fix these limitations, the current study exposes participants to biographies of the same length, as well as using participants who are adults greater than 30-years-old, which should provide a more valid test than the previous study of the following hypothesis:

Hypothesis 5: Participants will choose to visit the physician with whom they perceive the greatest similarity.

The Need for Formative Research

While perceived similarity may be an important factor in choosing a primary care physician, it is likely not the only piece of information patients find important to know before selecting one to visit. The following section will lay the rationale for the need for greater formative research in determining what prospective patients want to know to help them in their decision-making, leading to the articulation of three final research questions.

Difficulties in finding new doctors. Each year millions of individuals are forced, many for purely circumstantial reasons, to have to find a new doctor. In their study Olsen, Kane, and Kasteler (1976) found that around 50% of their sample were forced to change physicians due to

situations beyond their control (e.g., the patient moved, the doctor moved, the doctor retired, or the doctor died). Besides just switching because they were forced to, a large majority of their sample also claimed they had shopped around for doctors, and 10% were currently dissatisfied with their doctors and wanted to change (Olsen et al., 1976). A more recent follow-up to this study found similar results, where approximately 20% of patients surveyed voluntarily changed primary care physicians within the past three years (Gelb-Safran et al., 2001). Changes to patients' insurance plans are also commonly cited by individuals for why they are forced to choose a new doctor (Razzouk, Seitz, & Webb, 2004). Research within the last decade using a nationally representative sample found that around 31% of individuals would be willing to switch doctors if information they found suggested that another doctor was better than their current doctor (Harris, 2003). Perrault's (2013) study, which used only a student sample, revealed that 22% of the students had to find a new family medicine physician within the past year.

Despite the fact that a large percentage of patients need to find new doctors each year, or want to find new doctors, there has been very little research on how patients choose new doctors (Hoerger & Howard, 1995; Salisbury, 1989; Wolinsky & Steiber, 1982). Few recent studies look at how patients choose primary care doctors or what kinds of information they would like to know, despite the fact that since the prior studies were done, the Internet has now become a popular place to seek health information (Fox, 2011).

In the studies that are available on this topic, the most important qualities patients indicate they want in primary care physicians are associated with good interpersonal communication skills (Engstrom & Madlon-Kay, 1998; Fanjiang et al., 2007; Fung et al., 2005; Lupton, Donaldson, & Lloyd, 1991). Patients state they want doctors who are easy to relate to

and are friendly (Salisbury, 1989). In fact, Gelb-Safran et al. (2001) found that patients who had a poor physician-patient relationship (i.e., a construct encompassing interpersonal communication within consultations) were three times more likely to find a new primary care physician to visit over a three year period than those who ranked their physician-patient relationship of a high quality. A physician's communication skill is sometimes even ranked higher than a physician's expertise (McCall, 1995; Satterthwaite, 1979); however, physician expertise and technical competence are still very important qualities patients look for (Bornstein, Marcus, & Cassidy, 2000; Fung et al., 2005; Hanna, Schoenbachler, & Gornon, 1994; Hoerger & Howard, 1995). However, lacking a physical product they are able to hold, patients have very little opportunity to observe physicians before they make a choice (Hoerger & Howard, 1995). To help in making their choices patients might try to find the information they want to know about physicians, but likely will have a hard time finding it (Bornstein, Marcus, & Cassidy, 2000; Salisbury, 1989). Research conducted by Razzouk et al. (2004) found that more than 60% of their sample who were forced to find a new physician from a physician directory in the past rated the information offered by the healthcare systems to be inadequate for helping them make an informed choice.

Being able to find information about a physician's communication style, or personal information that a patient can relate to, from a physician's online biography provided by a healthcare system is likely to be very difficult. Perrault and Smreker (2013) conducted a content analysis of more than 1,400 online primary care physician biographies from 152 different health systems in 32 states finding that only about 8% of the biographies included a piece of personal information about the doctor outside of the medical context. They also found that only about 7% of biographies included information related to how the physician would communicate with

patients during consultations. Alpert (2014) found similar results in his analysis of more than 900 family physicians' practice websites in the United States. Only about a third of websites provided philosophies of care or personal information/hobbies about the physicians (Alpert, 2014).

Prior research indicates that the number one place people seek information about finding new doctors is from family and friends (Booth & Babchuk, 1972; Harris, 2003; Perrault, 2013). Patients' "apparent reliance on personal acquaintances is highly consistent with the high value that consumers place on interpersonal aspects of quality and their preferences for nontechnical quality information" (Harris & Buntin, 2008, p. 9). However, for individuals who have recently moved, or have no family or friends near them, seeking sufficiently complete information from others would be difficult. Plus, in large metropolitan areas, or locations with an abundance of doctors, even if a person had friends and family to consult, those friends and family would not likely know the majority of doctors, so it would be hard for consumers to get information about all of the options that are available to them (Satterthwaite, 1979). Additionally, even if the choice of which healthcare system to visit was limited by a person's insurance provider, individuals would still have quite a diverse choice of deciding which physician within that system to ultimately visit (Lubalin & Harris-Kojetin, 1999).

It is recommended by the U.S. National Institutes of Health (2011) that patients learn about a new doctor, even set-up a non-medical appointment, prior to choosing a new doctor to help them understand what the doctor is like and if the patients could see themselves having a positive relationship with that doctor in the future. However, patients would likely be charged by a doctor for this visit (U.S. National Institutes of Health, 2011), also many patients may not have enough time in their days to do this. Therefore, a better understanding of the factors that

influence people's choices of doctors when they are in the process of deciding on a new physician could potentially provide consumers with the resources to make more informed and easier choices, and have greater satisfaction with the doctors they choose to ultimately visit (Bornstein, Marcus, & Cassidy, 2000). This leads to the following research question:

Research question 1: What level of importance do prospective patients place on knowing various pieces of information about family medicine physicians before choosing one to visit?

Additionally, while the theoretical rationale previously detailed predicts that perceived similarity may play a role in predicting participants' decisions when other physician characteristics are held constant, there are possibly other factors at-play. Knowing these factors could further help to inform the creation, or reformulation, of healthcare systems' physician biographies. Therefore, the following research question is posed:

Research question 2: What reasons do participants give for choosing the doctor they would like to visit?

Current video offerings. Despite the numerous positives that short introductory videos of doctors placed alongside their biographies could provide for patients in making a more informed choice, Perrault and Smreker (2013) found that only about 3% of primary care physician biographies, of the more than 1,400 they coded, offered a video introduction of the physician. In his analysis of family physicians' personal websites, Alpert (2014) found that about 13% provided videos, but did not specify if these videos were of the doctors themselves, or general wellness videos. Perrault (2014) coded 153 physicians' introductory videos from 20 health systems [identified via Perrault & Smreker (2013)] to determine the kinds of information that is offered in the videos, in addition to the information that is offered textually. Of the 153 videos coded, 80.4% offered a philosophy of care, defined as how the doctor conceptualizes care,

and 45.1% described what could be expected in a consultation. Additionally, nearly 24% of videos had the doctor describe personal hobbies or interests, which would help a patient see the doctor as a fellow human being who has a life outside of medicine (Kulich et al., 2003).

Even though healthcare systems are expending resources to create video biographies of their physicians, there has been no formative research conducted to understand what patients would want to see delivered in these videos. For example, when prospective patients are searching for doctors, how long should the videos be? What kind of information would they like to see conveyed in the videos? Therefore, the following research question is posed:

Research question 3: What qualities do potential patients want to see reflected in introductory video biographies of physicians?

The answers to these three research questions should provide valuable insights to healthcare systems that may be looking to enhance their current physician biographical offerings to attract new patients to both their facilities and physicians. The following section will describe the methods that were used to test the preceding hypotheses and answer the preceding research questions.

METHOD

Overall

This study took part in two phases. First, video biographies with female family medicine physicians needed to be filmed, edited, and pretested with the population of interest. After finding two doctors with similar levels of attractiveness, trustworthiness, liking, expertise, and induced similarity, the full study was carried out via an online experiment. Participants were randomly assigned to view two biographies, one from each doctor, and asked to respond to a series of questions, ending with their selection of the doctor they would choose to visit for their health needs. The following sections give a more detailed look at each stage of the research that was completed.

Creation of Biographies

The creation of the biographies used for this study, both print and video, were informed by communication theory and prior research. First, female family medicine physicians needed to be recruited who were willing to be interviewed and video recorded for this study. Only female family medicine physicians were used because the sample recruited for this study would only consist of female participants. This was done in an attempt to create a higher degree of similarity between themselves and the doctors' biographies to which they would be exposed, as well as to provide an added level of experimental control.

Out of dozens of female family medicine physicians in mid-Michigan who were contacted, five who were similar in age and nationality agreed to be interviewed and video recorded. The primary researcher, who has a background in television news reporting and video recording, conducted the interviews. The physicians were asked questions regarding what the definition of family medicine is, what they normally see on a daily basis in the office, what their

professional interests are, why they went into family medicine, the nature of their personal and family lives, what they like to do away from the office in their free time, and their philosophies of care. The interviews, which lasted between 15-20 minutes, were then edited to clips of between 89-92 seconds (i.e., 1:19-1:22), which is close to the median length (97 seconds) of physician biographies Perrault (2014) found in his content analysis of physician biographical videos.

Biography content and visual characteristics. Each physician had two video biographies created, one featuring predominantly personal information and one featuring predominantly professional information. This difference of information provided in the biographies was an attempt to manipulate perceived similarity. The components that were ultimately placed within the biographies were gleaned from the content analysis of physician video biographies conducted by Perrault (2014). Additionally, components participants indentified as important to know before choosing a physician, learned from Perrault and Silk's (2013) study (i.e., a physician's philosophy of care and medical school attended), were placed in all the biographies. Therefore, the biographies were broken into three main sections: the beginning featuring their names and education, the ending featuring their philosophies of care, and the middle (i.e., the manipulation) featuring either professional or personal information. This middle section, titled "about me" accounted for approximately half of a biography's length.

Professional biographies. The professional biographies contained professional interests of the doctor (e.g., why the physician chose family medicine, what she sees on a normal day, her favorite kinds of ailments to treat).

Personal biographies. The personal biographies contained information about personal hobbies, as well as information about the doctor's family life.

Video biographies. To ensure that all the biographies looked similar in how they were video recorded, the doctor was placed in-front of a blank, neutral colored wall, filmed only with the doctor's head and shoulders showing, and framed on the right side of the screen. White flashes measuring one video-frame in length were used to splice together edits in the videos.

Text biographies. The text versions of the biographies were verbatim transcripts of the information present in the videos, except for the physicians' educations, which were shown in list form instead of sentence form to correspond with the way text biographies normally appear on healthcare systems' websites. This manipulation allows for a truly clean test of the additional videos' effectiveness, and uncertainty reducing possibilities compared to traditional text-only biographies. All text biographies were held constant in their lengths (i.e., 5 lines for education and residency information, 10 lines for the "about me" section, and 4 lines for the "philosophy of care" section). Please see Appendices B and C for all the text biographies (both personal and professional) created.

Pre-test

Before the full study was carried-out, a pre-test was conducted to find two physicians who matched-up similarly on attractiveness, trustworthiness, liking, expertise, and perceived similarity to use for the full-study (these measures will be described in-detail in the subsequent section). The pre-test was also conducted to determine if the personal and professional biographies would successfully manipulate perceived similarity. A within-subjects online experiment was conducted with 64 female participants ranging in age from 30-60 (M=37.75, SD=5.67). Participants were recruited nationally through Facebook via numerous television and media contacts the primary researcher knows, as well as mother affiliated groups on Facebook who the researcher contacted for help. Participants were mailed $15 honoraria for participating

in the pre-test. The participants came from 21 different states. Ninety-two-percent (59 participants) classified themselves as Caucasian, two participants as Hispanic, one participant classified herself as Asian, another participant as Caucasian/Asian, and one participant did not respond. Approximately 84% of participants were married, and nearly half (48%) indicated they had two children. Income was measured using categorical ranges, and the average household income fell between $60-80,000. All but one participant had health insurance, and 25% of participants indicated they had to select a new family medicine physician within the last year.

All participants upon entering the online study were randomly assigned to see either all five personal biographical videos and accompanying text biographies or all five professional biographical videos and accompanying text biographies. They were first asked to rate the attractiveness of the five physicians based on photographs presented to them in counterbalanced order, and they were then presented with the videos and corresponding text biographies in counterbalanced order to complete measures of similarity, trustworthiness, liking, and expertise. Only data from participants who indicated they were able to view all the videos were analyzed on these last four measures.

First, between subjects ANOVA were conducted to see if the manipulation of similarity was successful. Results revealed significant differences between the professional and personal biographies with regards to perceived similarity among four of the five biographies, and among all five doctors the personal biographies received higher similarity scores than the professional biographies. Therefore, it was concluded that the similarity manipulation was successful. Repeated measures ANOVA was used to test for a lack of statistical significance among the five physicians to find two physicians which could be used for the full study. Results clearly revealed two physicians who matched-up similarly along all five measures (i.e., Drs. Jill and

Robin). Within-subject analyses revealed no significant differences between them on any of the variables measured for both their professional and personal biographies. See Table 1 for the data summarizing the analyses calculated from the pre-test. These two physicians' biographies were therefore selected for use in the full study.

Full Study

Participants were recruited in the same manner as the pre-test, through media and television Facebook contacts the primary researcher knows across the country, and also with the help of posts on mother groups on Facebook that the researcher contacted. To try and ensure that participants would perceive greater levels of similarities with the biographies containing personal information, only mothers with children who indicated they were at least 30-years-old were able to participate. Additionally, screening questions prior to entering the study also limited participants who were doctors, nurses, or teachers from participating to limit the numbers of participants who might perceive the professional biography to be more similar to them. Participants also were screened to ensure they did not participate in the pre-test. Finally, in order to gain access, participants also had to indicate they were at a computer with working speakers or headphones to be able to view video and listen to audio. Participants were mailed $15 honoraria for their participation.

Participants. In total 324 mothers participated in the online experiment. Three participants were removed from analyses because they completed the study in less than 10 minutes and all of their responses looked similar. One additional participant was removed because she was in a condition where she should have viewed a video but indicated she was unable to view it. The remaining data from 320 participants were subsequently analyzed for this study.

General demographics. Participants ranged in age from 30-69 (*M*=36.8, *SD*=7.20, median=35); 77% of participants were between the ages of 30-39 inclusive. Participants came from 37 different states. Ninety-two-percent (295 participants) classified themselves as Caucasian, 2% as African-American, 2% Hispanic, 1.3% Asian, 1 participant as Pacific Islander, 2% as "Other," and one participant declined to respond. Eighty-nine-percent of participants were married, and the number of children they had ranged from 1-7 (*M*=2.3, *SD*=1.2); nearly half (48%) indicated they had two children. Income was again measured using categorical ranges, and the median household income fell between $60-80,000. Participants also ranged in their levels of education; 5.6% indicated their highest level of education was a high school diploma or GED, 21.6% some college, 9.1% a 2-year degree, 41.9% a 4-year degree, and 21.9% a graduate degree.

Medical demographics. Approximately 39% of participants stated they had to choose a new family medicine physician within the past year, and the majority (71.4%) indicated that their choice in picking a family medicine physician for the first time is very important to them (*M*= 6.55, *SD*=.995). About 94% of participants stated they seek information about different doctors before deciding on a new family medicine physician, and approximately 84% of participants (n=269) indicated that they consider between 2-5 doctors before selecting one to visit (mode=3 physicians, n=118). The most popular places participants stated they seek information about physicians include asking friends (91%), asking family members (71%), and reading physician biographies from healthcare systems' websites (67%) (see Table 2). Almost 94% of participants indicated they consult more than one source of information before deciding on a new family medicine physician to visit, with the median value being four sources (see Table 3). Approximately 60% of participants indicated they visit a family medicine physician between 1-3

times a year, and about 33% indicated they see a family medicine physician 4 or more times each year.

Experimental procedure.

Research question one. To begin the study, and to answer research question 1, participants first rated the level of importance they place on knowing 23 different pieces of information about a family medicine physician before deciding on one to visit (e.g., whether the doctor is board certified, the marital status of the doctor, the doctor's philosophy of care) on seven-point Likert scales (1=strongly disagree, 7=strongly agree). See Table 4 for the complete list of qualities inquired about.

Hypothetical scenario. To help add realism to the decision-making task of choosing a new family medicine physician, prior to being exposed to the biographies, participants were asked to imagine that their health insurance has recently changed and that they must now find a new family medicine doctor to visit when they are ill. Changes in insurance are commonly cited by individuals for why they need to find a new doctor (Razzouk et al., 2004), and these changes are likely to become more common as the Affordable Care Act begins to take effect (U.S. Centers for Medicare and Medicaid Services, 2014). The prompt then informed participants that a web-search of their nearest clinic where their new insurance is accepted yielded the following two physicians (see Appendix D for the scenario participants were exposed to). Participants indicated on a seven-point scale (1=SD, 7=SA) that the scenario seemed realistic (M=6.1, SD=0.98), believable (M=6.0, SD=1.00), and like it could possibly happen to them (M=5.9, SD=1.17). After viewing this scenario participants were then exposed to the biographies.

Experimental design. This study took the form of a 2 (medium: text or video) x 2 (biography type: professional or personal) x 2 (doctor: Jill or Robin) online experiment, leading

to eight conditions that participants could be randomly assigned to. However, in order to test hypothesis 5, participants needed to view a second physician so they could make a choice. To ensure that participants saw all possible combinations of Dr. Jill and Dr. Robin's biographies 24 conditions were ultimately created (see Appendix E for the complete condition breakdown). The design is not a fully crossed design because participants would not be exposed to two of the same physician, or two of the same biography types of the same medium. For example a participant would not see a Dr. Jill personal video and then a Dr. Robin personal video, but may have seen a Dr. Jill personal video and a Dr. Robin personal text. Participants were randomly assigned to one of these 24 different conditions. After viewing each biography participants filled out scales measuring: perceived similarity, uncertainty, anticipated satisfaction, anticipated quality of medical care, likeability, trustworthiness, expertise, and attractiveness (see below for explanations of each scale). Then after viewing both biographies, participants selected which physician they would want to choose to be their next family medicine doctor. After this selection participants were asked open-ended questions regarding their reasons for selecting the doctor they did, and if they were in a condition where they viewed a video of a physician they were asked what else they would like to see included in video biographies of physicians.

Closed-ended measures. Participants completed eight scales after viewing each biography. Prior to summing the scales' items to create composite variables, all scales were subjected to confirmatory factor analysis (CFA) using AMOS 18. Inter-item correlations among scale items were first analyzed, and then factor loadings were compared, which led to the removal of some items. Only scales from the first biography viewed by each participant are discussed below. Because every participant did not view every one of the eight biographies created, data to test the first four hypotheses can only be used from the first biography

participants viewed so as to not violate the assumption of independence needed to execute the proper statistical tests. All complete scales can be found in Appendix F. After completing all of the scales for the two physician biographies that were viewed, participants then chose the physician they would want to be their new family medicine physician.

Similarity. Participants completed a measure of similarity after reading each biography using items adapted from the perceived attitudinal homophily scale (McCroskey et al., 1975, 2006). Nine items comprised the scale and following CFA two items was removed. Participants were asked to rate their agreement on the items using a seven-point scale (1=strongly disagree, 7=strongly agree). Items included: this doctor thinks like me, is like me, is similar to me, behaves like me, has thoughts and ideas that are similar to mine, has many things in common with me, and I can relate to this doctor. The overall alpha reliability for this scale was .941, with a comparative fit index (CFI) of .914.[1]

Uncertainty. Participants' level of uncertainty with each physician was measured using items from a scale created by Prisbell and Andersen (1980). Participants were asked their level of certainty/knowledge to six questions about the doctor they were just exposed to by placing their answers on a seven-point scale (1=not at all, 7=extremely well). The higher the score, the greater the uncertainty reduction. Following CFA, one item was removed, leaving the following five questions: How well do you understand this doctor's feelings?; How well can you predict this doctor's decisions?; How well can you understand this doctor's values?; How well do you understand this doctor's judgments?; How well can you predict this doctor's attitudes? The overall alpha reliability for this scale was .916, with a CFI of .926.

Anticipated satisfaction. Satisfaction with the physician was measured using items adapted from the satisfaction with physician (SWP) scale (Richmond et al., 1998). Participants

[1] Marsh and Hau (1996) state a useful cut-off for relatively good fit is greater than .90.

were asked to indicate how pleased/satisfied/comfortable/happy/secure they would be if they visited the physician they just read about or viewed. CFA performed on the five-item semantic differential scale did not lead to the removal of any items (CFI=.949), and the overall alpha reliability of this scale was .947.

Anticipated quality of medical care. The anticipated quality of medical care was measured using six items adapted from the perceived quality of medical care (PQMC) measure (Richmond et al., 1998). Participants were asked to indicate where they would fall along the continuum for six word pairs regarding the kind of medical care they believed they would receive from the physician of the biography they just read. Following CFA, two items were removed. Word pairs consisted of: impersonal & personal; uncaring & caring; concerned & unconcerned; unsatisfactory & satisfactory. The overall alpha reliability for this scale was .932, with a CFI of .976.

Likeability. Likeability was measured using five items adapted from a sub-scale of the McCroskey and McCain (1974) measure of interpersonal attraction. Participants were asked to rate their level of agreement toward the items on a seven-point scale (1=strongly disagree, 7=strongly agree). CFA did not lead to the removal of any items (CFI=.930), with an overall alpha reliability of .976. The following five items were summed to form the liking composite variable: this doctor seems like a nice person; this doctor seems pleasant; this doctor seems likable; this doctor seems friendly; this doctor seems personable.

Trustworthiness. Trustworthiness was measured using six items adapted from source credibility scales of McCroskey and Teven (1999) and Ohanian (1990). Participants were asked to indicate where they would fall along the continuum for six word pairs (e.g., honest/dishonest, sincere/insincere, trustworthy/untrustworthy) about the doctor whose biography they just viewed.

The scale had high reliability (α=.952), and CFA revealed good fit (CFI=.925), therefore no items were removed.

Expertise. Expertise was measured using six items adapted from source credibility scales of McCroskey and Teven (1999) and Ohanian (1990). Participants were asked to indicate how expert/experienced/competent/qualified/skilled/smart they believed the physician was they just read about or viewed. CFA performed on the six-item semantic differential scale did not lead to the removal of any items (CFI=.974), and the overall alpha reliability of this scale was .963.

Attractiveness. Attractiveness was measured using four items adapted from source credibility scales of McCroskey and Teven (1999) and Ohanian (1990). Participants were asked to indicate how attractive/classy/beautiful/elegant they believed the physician was they just read about or viewed. CFA performed on the semantic differential scale did not lead to the removal of any items (CFI=.957), and the overall alpha reliability of this scale was .893.

Physician selection. After being exposed to both biographies, and completing their related scales, participants were asked to choose the physician with whom they would like to make their new family medicine physician.

Open-ended measures. After completing all of the closed-ended measures participants then completed two open-ended responses to answer research questions 2 and 3. To answer research question 2 participants were simply asked, "Why did you choose the doctor you just selected? Please explain your decision." To answer research questions 3, only participants who were exposed to a video were asked, "What else would you like to see shown in the video(s) that you viewed that was not included?" Additional closed-ended questions were also asked of participants who viewed a video to determine the ideal length of videos they would like to view, as well as their attitudes toward seeing biographies with videos in the future.

***Research question two*.** Open-ended responses for research question 2 (i.e., the reasons participants gave for choosing the doctor they would like to visit) were coded by two trained undergraduate research assistants. The coding scheme used was developed by the researcher in a previous study (Perrault et al., unpublished manuscript), which used the grounded theory approach of open-coding to reveal distinct coding categories (Hesse-Biber & Leavy, 2011). Fourteen distinct categories emerged regarding why participants would select one doctor over the other (see descriptions of each code below). Coders were instructed to simply code for the presence or absence in the participants' responses for each of the pieces of information in the coding scheme. Coders went through a 90 minute training on the coding scheme, and were then instructed to independently code 100 comments to ascertain the scheme's effectiveness. The coders were able to successfully code all of the material into the 14 categories (i.e., nothing was coded in a remaining "other" category). Due to some rarely occurring codes in the data set, an overall percent agreement and Cohen's Kappa were calculated to obtain coder reliability (Potter & Levine-Donnerstein, 1999). This first round of coding resulted in 93.3% overall agreement (Cohen's Kappa = .71), which is an acceptable level of inter-coder agreement.[2] These disagreements were resolved in a second-round of training and the coders were tasked to code the remaining responses. This second round of coding resulted in 93.9% overall agreement (Cohen's Kappa = .75). Again, the coders met to resolve the disagreements until 100% agreement was reached for all responses.

Information provided. This category included responses where participants explicitly mentioned the kind or amount of information provided as a reason for choosing the doctor they selected. This category was further divided into five subcategories, including: 1) the biography was better written; 2) no interest in reading personal information about the doctor; 3) personal

[2] Landis and Koch (1977) report that Kappa values >.61 indicate substantial levels of inter-coder agreement.

information was provided; 4) professional information was provided; 5) the biography gave both professional and personal information.

Medium. This category included responses where participants indicated that the medium of the biography helped in some way in making their decision. This category was further subdivided into two subcategories including: 1) video; and 2) the picture provided.

Expertise. Expertise included responses where participants mentioned the intelligence, qualifications, expertise, or capabilities of the doctor as a reason for choosing her.

Philosophy of care. This category included responses where participants mentioned the doctor's perspective toward the care process (e.g., understands everyone is different, is open to discussions with patients), as a reason for choosing her.

Personality characteristics. Responses in this category indicated the personality of the physician as a reason for choosing her (e.g., nice, friendly, considerate).

Similarity to patient. Similarity was coded when participants indicated that the doctor they chose seemed similar or like them.

Relatable. Comments participants made stating that the doctor they chose seemed relatable, like someone they could get along with or have a personal relationship with, were coded as relatable.

Human-like. This category included responses where participants indicated that the reason they chose the physician they did is because she seemed like a real person (e.g., human, not a robot, not just a title, normal person).

Trustworthiness. Trustworthiness included responses where participants indicated that they chose a particular doctor because she seemed trustworthy, responsible, truthful, credible, or honest.

Familiarity. Responses where participants chose the doctor they did because she seemed the most familiar to them (e.g., less of a stranger, know most about her, least amount of uncertainty with her, predictable) were coded in this category. Familiarity was distinct from similarity in that people can easily be familiar with someone who is not similar to them or vice-versa.

Doctor's willingness to self-disclose. Responses where participants explicitly indicated the doctor's proclivity to self-disclose/share personal information as a reason for choosing her were coded in this self-disclosure category.

Office/visit climate. This category included responses where participants stated their reason for choosing the physician they did was because they would feel safe, calm, comfortable, or not threatened with this doctor when visiting with her.

Communication competence. Responses where participants stated they felt like this doctor would be someone who would be easy to converse with, or was a good listener, as a reason for choosing her were included in this category.

Lifestyle. This category included responses where participants indicated they chose the doctor because she seemed to have an active life, good family life, or a stable life outside of being a doctor.

Coders were instructed to code for the presence or absence of these pieces of information in each comment. In other words, coders identified as many unique codes as possible in a given statement. For example, the comment, "This doctor just seems more down-to-earth. Plus, she's a mom like me," was coded into two categories: personality characteristic, and the doctor's similarity to the patient. However, comments where the same code appeared multiple times in a comment were only coded for once. For example the comment, "I appreciated knowing her

education, board certification, and emphasis on chronic disease management," was coded only once for expertise.

Research question three. Open-ended responses for research question 3 (i.e., the qualities potential patients want to see reflected in introductory videos) were coded by the primary researcher and an undergraduate research assistant. These responses were fairly short, at most one sentence, many simply a few words, and some who viewed videos did not even supply responses. After open-coding all responses, the primary researcher created a coding scheme encompassing 16 categories. He then went back and formally coded all of the responses successfully using the coding scheme created. The undergraduate research assistant was then provided with the coding scheme and independently successfully coded all of the data into the categories (i.e., no information was coded in an "other" category provided). The overall percent agreement between the two coders was 99% (Cohen's Kappa = .902). Much like the coding for research question 2, coders simply coded for the presence or absence of the information in the participants' statements, and multiple codes could have appeared in the same responses. The coding categories and a brief description of them can be seen below.

Nothing. Statements were coded in this category if a participant explicitly stated that nothing in the videos needed to be changed or added.

Professional information. These responses included comments from patients stating they wanted more of the medical expertise (e.g., specialties, length of time practicing medicine, awards earned) presented in the videos.

Personal information. These responses included comments wanting more information regarding the doctor outside of medicine (e.g., hobbies, children, marital status).

Philosophy of care. This category included comments from participants wanting more information regarding the doctor's ideas toward patient care (e.g., how they conceptualize care, their medical belief system, how they interact with patients).

Practice description. Comments coded in this category included those from participants wanting more information on the number of doctors or nurses that are in the doctor's practice.

Patient reviews/testimonials. Comments in this category included those wanting to see testimonials from patients regarding the profiled physician.

Office/facility video. This category included participant comments wanting to see video of the doctor's office, possibly a tour of the facility or the waiting room.

Video of doctor. Comments in this category included those wanting to see footage of the doctor in her office and interacting with patients.

Video of staff. These comments included those where participants stated they wanted to see footage of staff in the office and interacting with patients or the doctor.

Quality of the video. This category included comments related to the quality of the video (e.g., lighting, transitions, background, editing).

Information not contained in text. Comments in this category included those from participants who stated they wanted to see information in the video that they could not read in the text of the biography (i.e., not redundant information to the text).

Passion about job. This category included participant comments related to wanting to hear information regarding goals of the doctors, passions of the doctors, or why they chose medicine.

Fun questions. A response in this category was recorded if the participant indicated she would like to have seen more fun questions asked of the doctors.

Personal artifacts. This category included comments related to wanting to see personal artifacts of the doctor within the video (e.g., pictures of the doctor's family, diplomas of the doctor).

Multiple videos. Comments in this category were coded if the comment stated multiple videos of the doctor should be provided.

Basic information. This category included comments regarding participants wanting to see more basic information about the doctor (e.g., contact information, kinds of insurance accepted, address of the office).

RESULTS

To validly test hypotheses 1-4, only data from the first biography participants viewed could be used in the analyses. Because each participant was not exposed to every possible biography, repeated-measures analyses could not be performed on the data. Therefore, in order to meet the assumption of independence necessary in the statistical procedures being utilized, only the results from the first biography participants viewed are analyzed using between-subjects ANOVA (Keppel & Wickens, 2004).

Induction Check & Comparisons Between the Physicians

Similarity induction. Even though the pre-test revealed significant differences between the personal and professional biographies with regards to the necessary induction of perceived similarity, these data were also analyzed to ensure this induction still remained significant. A 2 (biography type: personal vs. professional) x 2 (physician: Jill vs. Robin) between-subjects ANOVA with perceived similarity as the dependent variable was conducted revealing a significant main effect for biography type, F (1, 316) = 78.6, $p < .001$, $\eta^2 = .195$. The physicians providing personal biographies (M=4.77, SD=.95) were perceived as significantly more similar to the participants than those providing professional biographies (M=3.81, SD=.99). There was no significant main effect difference between the two physicians, indicating a similar degree of similarity among them, and a practically insignificant interaction effect F (1, 316) = 5.42, p = .021, $\eta^2 = .013$. Additionally, one-sample, two-tailed t-tests were carried-out with each mean to determine if they were significantly different from the mid-point of the similarity scale. Analyses indicated the mean for personal biographies was significantly above the midpoint of the seven-point scale, t (159) = 10.2, p<.001, while the mean for professional biographies fell marginally below the midpoint, t (159) = -2.43, p=.016.

Comparisons between physicians. In order to be able to collapse the two physician conditions to test hypotheses 1-4, the two physicians' biographies needed to be analyzed to ensure they did not substantially differ with respect to perceptions of trustworthiness, expertise, attractiveness, and liking. Four 2 (biography type: personal vs. professional) x 2 (physician: Jill vs. Robin) between-subjects ANOVA were conducted revealing no practically significant main effect differences between the two physicians or the types of biographies on these four additional dependent variables. Table 5 summarizes these biography comparisons. As a result of these analyses, the two physician conditions were collapsed for testing hypotheses 1-4.[3]

Hypothesis 1

Due to the success of the similarity induction, hypothesis 1 could be tested. To test hypothesis 1 that perceptions of similarity would be positively related to levels of uncertainty reduction, a correlation was calculated. The correlation between perceived similarity and uncertainty reduction was significant r (317) = .374, p<.001. This indicates that as participants perceived greater similarities between themselves and the doctors there were greater levels of uncertainty reduction. Thus, the data were consistent with hypothesis 1.

Hypothesis 2

To test hypothesis 2 that biographies containing videos will reduce uncertainty greater than text-only biographies, a one-way ANOVA with medium as the independent variable (video vs. text) and uncertainty as the dependent variable was carried out. A significant effect was revealed, F (1, 317) = 17.07, $p < .001$, $\eta^2 = .051$, where video biographies (M=4.11, SD=1.11) led to significantly greater reductions in uncertainty than text-only biographies (M=3.58, SD=1.17). Therefore, the data were consistent with hypothesis 2.

[3] As an added level of rigor, the analyses for hypotheses 1-4 were also conducted separately for each of the two physicians, and the same significant findings were discovered as when the analyses were run with the physician conditions collapsed.

This finding was further corroborated when a post-hoc 2 (medium: text vs. video) x 2 (biography type: professional vs. personal) x 2 (physician: Jill vs. Robin) ANOVA was performed with uncertainty as the dependent variable. Of the seven main and interaction effects possible, the only significant finding was for the main effect of medium F (1, 311) = 16.78, p < .001, η^2 = .05. Additionally, one-sample, two-tailed t-tests were carried-out with each mean to determine if they were significantly different from the mid-point of the uncertainty scale. Analyses indicated the mean for text-only biographies did fall significantly below the midpoint of the scale t (158) = -4.48, p<.001, while the mean for video biographies did not differ significantly from the midpoint t (159) = 1.27, p=.206.

Hypothesis 3

To test hypothesis 3 that the perceived quality of medical care will be greater for biographies containing videos than those only containing text, a one-way ANOVA with medium as the independent variable (video vs. text) and perceived quality of medical care as the dependent variable was carried out. The analysis revealed a significant effect, F (1, 317) = 17.91, p < .001, η^2 = .053, where video biographies (M=5.58, SD=1.05) led to significantly greater perceptions of the quality of medical care that would be given by the physicians than text-only biographies (M=5.06, SD=1.15). Therefore, the data were consistent with hypothesis 3.

A post-hoc analysis using a 2 (medium) x 2 (biography type: personal vs. professional) was also conducted to see if there might be any interaction with the type of biography; there was not. However the analysis did reveal a main effect for biography type, F (1, 315) = 13.92, p < .001, η^2 = .04, where participants perceived they could receive a higher quality of care from a

physician offering a personal biography (*M*=5.55, *SD*=1.05), than one offering a professional biography (*M*=5.09, *SD*=1.16).

Hypothesis 4

To test hypothesis 4 that anticipated patient satisfaction will be greater for biographies containing videos than those only containing text, a one-way ANOVA with media type as the independent variable (video vs. text) and anticipated patient satisfaction as the dependent variable was carried out. The analysis revealed a significant effect, F (1, 316) = 32.67, $p < .001$, $\eta^2 = .094$, where video biographies (*M*=5.29, *SD*=1.07) led to significantly higher levels of anticipated patient satisfaction than text-only biographies (*M*=4.57, *SD*=1.15). Therefore, the data were consistent with hypothesis 4. See Table 6 for a summary of the results for hypotheses 2-4.

A post-hoc analysis using a 2 (medium) x 2 (biography type: personal vs. professional) was also conducted to see if there might be any interaction with the type of biography; there was not. However the analysis did reveal a small main effect for biography type, F (1, 314) = 13.17, $p < .001$, $\eta^2 = .036$, where participants anticipated receiving greater patient satisfaction from a physician offering a personal biography (*M*=5.15, *SD*=1.06), than one offering a professional biography (*M*=4.71, *SD*=1.23).

Hypothesis 5

The final hypothesis predicted that participants would choose to visit the physician with whom they perceived to have the greatest level of similarity. To test this hypothesis, a chi-square test was used. However, before the test could be performed, first the physician a participant rated as the most similar had to be identified. Of the similarity scores for the two biographies to which participants were exposed, the highest score was indicated as the most

similar doctor to the participant. In the cases where there was a tie for the highest similarity score, those individuals were excluded from the analysis. The most similar doctor to the participants (i.e., either Dr. Jill or Dr. Robin) was then compared to the physician participants chose as the doctor from which they would want to receive care (i.e., either Dr. Jill or Dr. Robin). In total, there were 294 valid pairings. This analysis of the 2x2 contingency table revealed a significant finding χ^2 (1, n=294) = 87.4, $p < .001$. Therefore, the data were found to be consistent with hypothesis 5. Using this technique 77.6% of participants selected the physician that they rated as most similar to themselves.

Sometimes the difference in similarity between the two doctors was a small fractional difference (e.g., a 4.88 for one doctor and a 5.00 for the other doctor). Because these choices are individual level choices, there is no test to determine if the two values differ significantly from one another except just by noting the actual differences that exist. Therefore, a post-hoc analysis of the data using a .5 discrepancy between values as a cut-off was used to determine if the analysis would still remain significant. This analysis of the 2x2 contingency table still revealed a significant result χ^2 (1, n=230) = 103.3, $p < .001$.

Research Question 1

Research question 1 asked what level of importance prospective patients place on knowing various pieces of information about family medicine physicians before deciding on one to visit. Participants were asked to rate on a scale of 1 (strongly disagree) to 7 (strongly agree) how important it was to know 23 different pieces of information about a family medicine physician when they are in the decision-making phase.

The most important pieces of information prospective patients would like to know include how the doctor communicates during consultations, the doctor's board certification, the

doctor's philosophy of care, what the doctor's staff members are like, and the waiting time to get an appointment. Participants indicated that the least important pieces of information to know are the doctor's marital status, ethnicity/race, religion, and hobbies and interests outside of medicine. All of these results are summarized in Table 4.

Research Question 2

Research question 2 asked: What reasons do participants give for choosing the doctor they would like to visit? According to the data only small percentages of participants indicated they chose the doctor they did strictly because of the kind of information that was provided (e.g. better written biography [5.3%], more personal [5.0%] or professional [5.0%] information was provided). Instead, large percentages of participants indicated that the information to which they were exposed led to attributions about the physicians, which then led to the participants' choices. Only coded elements where at least 50 participants indicated them as important qualities in choosing the physician they chose will be noted in the following section, however an entire breakdown of the percentages for all reasons provided, as well as examples for each one, can be found in Table 7. Examples of typical responses can also be found in the following sections.

Expertise. Nearly one-third (31.9%) of participants indicated that the expertise of the physician was a deciding factor in selecting the physician they did. "The fact that she is involved in training indicates that she is current in the research and skills," (Participant 20); "She seemed to be an expert in her field. I want expert care from my doctors, not a best friend," (Participant 35); and "Seems more knowledgeable" (Participant 98), were typical comments made by participants regarding physician expertise.

Personality characteristics. Also, approximately one-third (30.3%) of participants indicated that personality characteristics of the physician were deciding factors in choosing

which physician to visit. For example, comments ranged from the physician being nice ["She seemed pleasant" (Participant 320), "She seems friendly," (Participant 284), and "She seem more caring and compassionate" (Participant 233)] to the physician being personable ["Seems more upbeat and perky" (Participant 241), and "This doctor seems more down to earth" (Participant 235)].

Medium. About one-quarter of participants exposed to a biography with a video (25.9%) indicated that the video was a helpful component in helping them select a doctor. Examples of these comments include, "The video helped to feel like you 'met' the doctor before going to the practice" (Participant 113), "The video was also helpful. It is nice to see how a doctor talks" (Participant 165), "I enjoyed the video. I never thought that watching a video would change my mind about someone" (Participant 283), and "Given the video biography of Dr. [Robin] I could get a better feeling about what this doctor was like. I could not get a good feel by just text" (Participant 316).

Philosophy of care. Approximately one-fifth (21.9%) of participants indicated that the physician's philosophy of care, usually as indicated from the physician's biography itself, was an important reason for choosing her. "I like that she thinks it is important to listen to the patient (Participant 304), "I like how she said 'partner' in her philosophy of care. I want a physician who views her job as informing my decision making, not acting as an authority" (Participant, 173), and "I like her strong statement of each patient being an individual and that a physician should listen well to her/his patient" (Participant 183), were typical comments provided for this category.

Relatable. Close to one-fifth of participants (18.8%) indicated they chose the physician they did because she seemed the most relatable. Some typical examples of these comments

include, “I think she would be able to relate the best to me” (Participant 294), “She was easier to relate to, married with kids, etc.” (Participant 303), and “She could relate to me and my problems” (Participant 238).

Similarity to the patient. Fifty participants (15.6%) indicated they selected the doctor they did because she seemed the most similar to them. Comments typical of this similarity code include, “I would choose this doctor because we have a lot in common on a personal level” (Participant 2), “She seems more like me and where I am at in this time in my life” (Participant 207), and “Finding a professional who has similar values as myself and family is a bonus and I am most likely to see them first” (Participant 35).

Research Question 3

To help healthcare systems improve the videos they are producing, or are thinking of producing, to include on their websites, research question 3 asked what qualities potential patients would like to see reflected in introductory video biographies of physicians? To answer this question, open-ended responses were analyzed, as well as descriptive data from a few closed-ended questions regarding the length of the videos.

Additions and improvements to the videos. In answering the question regarding what else they would like to see shown in the videos that was not included, 16 distinct themes emerged (see Table 8). Approximately 30% of participants explicitly indicated “nothing” needed to be changed in the videos. However, significant numbers of participants did provide very useful recommendations for finding ways to improve future videos. In total, nearly 16% of participants indicated they would like to see more professional information given (e.g., how long they have been in practice, what their medical specialties are). Almost 11% indicated they would like more personal information provided about the doctors (e.g., do they have children,

interests outside of medicine). However, these opinions about the kind of information desired (i.e., either more professional or personal) depended on the kind of video biography a person viewed, χ^2 (1, n=60) = 22.78, $p < .001$. Those who only viewed a personal video wanted more professional information provided (n=24) than those who viewed only a professional video (n=9). Similarly, those who viewed only a professional video wanted more personal information (n=24) than those who viewed only a personal video (n=3).

Participants also indicated that instead of simply seeing the physician talking to the camera the entire time, they would like to see additional footage. For example, nearly 11% of participants indicated they would like a tour of the office (e.g., seeing footage of the waiting room or the exam rooms). Approximately 5% of participants also indicated they would like to see video of the physician actually interacting with a patient or working in her office. For example one participant stated, "I've seen videos that include a clip of the doctor interacting with a patient - it would be helpful to include those if possible. Even though it isn't a real life patient interaction, it's still nice to include those to help give a clear idea of how the doctor interacts with patients" (Participant 139).

Five-percent of participants also indicated they would like to see video of the office staff possibly interacting with patients or working in the office. One participant noted, "I am usually very uncomfortable in waiting rooms and in dealing with medical office staff (because they have access to my personal info and know why I'm at the doctor), so seeing a nice receptionist or nurse talking with the doctor might ease some of that anxiety" (Participant 45). Another participant stated:

> It would be helpful to also have a short video of what it feels like to go to the office. Show coming into the waiting room, what kind of greeting you would get, what the atmosphere feels like. That tells you a lot about a physician's practice too. Do they put up

> with rude staff, do they have comfortable seating, are there things to distract you if appointments run long, all that sort of thing (Participant 118).

Small percentages of participants also stated the quality of the videos could be improved (4.4%) (e.g., not as much cutting/editing of the audio clips, using b-roll footage to cover up transitions, better lighting), and 2.2% of participants would have liked to see videos that had information that was not identical to what they could read in the text-versions of the biographies.

Length of the videos. Participants were also asked their thoughts on the length of the videos they viewed. Using a single-item adapted from Murphy et al. (2000) with five response options (very good, good, okay, poor, very poor), participants were asked to rate the length of the video(s) they watched (see Table 9). Eighty-nine-percent of participants rated the length of the videos, which ranged from 1:19-1:22 as either "very good" or "good." Participants also indicated what they thought the approximate ideal length of a physician's video biography should be (see Table 10). The modal response was 1 minute, and the median was 1:10. However, participants' opinions ranged from fewer than 30 seconds up to longer than 2 minutes.

Post Hoc Analyses

To gain a greater understanding of the data, and to help provide stronger evidence for the efficacy of providing video biographies, a few post hoc analyses performed will also be described.

Preference for a specific medium. This analysis sought to determine if a significant preference would exist for one type of medium over the other, if the information provided within the biographies was of the same type. To ascertain an answer, the data were split to only include participants who saw two biographies with the same kind of information (i.e., either both professional or both personal information), and who were presented with both a video and text

biography. The results indicate that participants more often chose the physician who provided the video biography (n=72), versus the text biography (n=36); χ^2 (1, n=108) = 12.0, p = .001.

Preference for information. This analysis was performed to determine if participants would have any specific preference for a physician based on the kind of information provided in the biographies (i.e., more personal or professional information) regardless of the medium of the biographies. The data were stratified to only include participants who were presented with both a personal and a professional biography. A significant chi-square analysis revealed that participants (65.5%) more often chose the physician whose biography contained more personal information; χ^2 (1, n=206) = 19.88, $p < .001$.

Attitudes toward video biographies. Participants who were exposed to either one or two of the video biographies (n = 270) were separately asked a series of one-item measures regarding their attitudes about them. Responses were reported via a seven-point Likert scale (1=strong disagree, 7=strongly agree). Participants significantly indicated above the mid-point of the scales that they found the videos to be useful additions to the biographies (*M*=5.97, *SD*=1.24), that they wished all biographies they would see in the future would have videos included (*M*=5.78, *SD*=1.32), and that the next time they need to choose a new family medicine physician they will specifically look for biographies that contain videos (*M*=5.57, *SD*=1.51).

DISCUSSION

As the Affordable Care Act begins to take effect, those with new plans may no longer be able to see their current doctors (U.S. Centers for Medicare and Medicaid Services, 2014), possibly creating much uncertainty for patients regarding who their next physician should be. The current study investigated a few ways physician biographical information provided by healthcare systems could be improved to not only help patients seeking new physicians make this decision easier, but also to reduce some uncertainty surrounding this important decision. Previous research has found that significant percentages of prospective patients want to know physicians' philosophies of care and personal information about physicians before making decisions (Perrault & Silk, 2013). However, this information is rarely provided in physicians' online biographies provided by healthcare systems (Perrault & Smreker, 2013). This study included biographies with philosophies of care, while testing the effects that adding personal compared to professional information about the physicians can have with regards to perceiving greater levels of similarity and uncertainty reduction. The study's results found that those biographies that contained personal information, which led to greater perceived levels of similarity, were related to greater levels of uncertainty reduction than biographies containing only professional information. These findings help to replicate those discovered by Perrault and Silk (2013) who used only a student sample.

This study also sought to extend previous findings by adding videos to physicians' biographies to test whether video enhanced biographies can lead to greater uncertainty reduction, as well as anticipated satisfaction, and the quality of medical care to be received. Healthcare systems are beginning to place video biographies of their physicians alongside their text biographies (Perrault, 2014), and it would be prudent to determine whether these videos can have

any added benefits as videos can be costly and time consuming to produce. This study found that biographies including videos did lead to greater levels of uncertainty reduction, as well as higher levels of anticipated satisfaction and quality of medical care. These findings help to validate the video efforts currently being put forth by some healthcare systems, and can help provide evidence to healthcare systems contemplating the decision of whether or not to invest in adding videos to their physicians' biographies.

Finally, this study set-out to determine the qualities prospective patients believe are important to know when deciding on a new family medicine physician to visit for the first time, why they selected the doctor they did, as well as offering improvements to the biographies they viewed. Not surprisingly characteristics dealing with professional competencies of the doctor ranked highly (e.g., areas of specialization, board certification, length of time practicing medicine). This result is also corroborated by the open-ended responses, revealing that the most popularly cited reason for selecting the doctor they did from the two provided were related to the expertise of the physician. However, the most highly rated piece of information in knowing before selecting a new family medicine physician was how he or she communicates during consultations. While this information could potentially be described in a long biographical narrative, videos of physicians, in relatively short snippets, can actually show prospective patients how a doctor communicates. Videos can also visually and aurally show what kind of communication a patient could expect to receive during a future consultation (e.g., is the doctor hard to understand, does the doctor appear to smile while speaking). Approximately one-quarter of participants who viewed a video biography cited this utility of the medium in helping them make their selections. In future videos participants stated they would like to see additional

footage, overlaid on-the-top of the interview footage, possibly showing video of the doctor interacting with a patient or staff members, and even video showcasing the doctor's office.

Theoretical Implications

This study used two well established theories, uncertainty reduction theory and media richness theory, for theoretical guidance, and the findings from this study help to extend these theories' scopes well beyond their original areas of focus. For example, the original focus of URT was on predicting and explaining how interactions would unfold between two strangers, interactants who have usually been perceived as being at similar social levels. However, the provider-patient relationship is quite different than one people might deal with on a daily basis as there is usually a perceived power imbalance (Bylund, Peterson, & Cameron, 2012). Results from this study indicate that personal information provided to prospective patients about physicians can lead to increased perceptions of similarity (e.g., showing that a doctor is a fellow human with whom they can relate) thereby reducing levels of uncertainty prior to an interaction.

The current study also confirms that uncertainty reduction does not have to take place within initial interactions; it can occur before interactants ever meet face-to-face. Prospective patients state they seek information prior to meeting with physicians, confirming the ways Berger (1979) postulates individuals gather information about others to help them reduce uncertainty. The majority of people indicate they ask friends (91%) or family (71%) about potential doctors, signifying an active route to information gathering. However, large percentages of participants also stated they seek-out more passive means to gather information regarding new family physicians; 67% read online biographies, and nearly 60% read patients' comments on the Internet. This number is considerably higher than the 17% of individuals researchers from the Pew Research Center (Fox & Duggan, 2013) found consult online rankings

or reviews of doctors and other healthcare providers. Clearly the population researched in the current study (mothers over the age of 30) seeks information via passive means at a much higher rate than the U.S. population in-general. What these findings indicate is that the Internet is quickly becoming a place individuals are seeking information to help them in selecting new family medicine physicians, and one that healthcare systems cannot neglect.

This research also helps to extend the ideas of media richness theory beyond its original focus of communication within organizations. By having the text biographies be a verbatim transcript of the video offered, it also sought to provide a much cleaner, highly controlled, test of the theory than previous attempts. Videos are able to carry much more information, information useful for patients in selecting a future physician, than their text-only counterparts (e.g., how a doctor speaks, non-verbal behaviors of the doctor). As the theory proposes, richer mediums like videos are hypothesized to be more successful in relaying complex information to audiences where ambiguity can be high (Daft & Lengel, 1984; 1986). In a field as complex as healthcare can be, where family medicine physicians can hold different kinds of degrees and specialize in different kinds of medicine, video presentations of physician information appear to offer prospective patients greater benefits than text only biographies. Uncertainty is not only reduced more for prospective patients exposed to a video biography compared to the exact same content presented textually, but anticipated patient satisfaction and quality of medical care are also greater for physicians who offered video biographies. Post hoc analyses also revealed that participants who were exposed to two biographies with the same kind of information (i.e., both professional or both personal), and viewed a video and text biography, that they more often chose to want to visit the doctor who provided the video biography. If the medium of video did not provide any added benefits or richness beyond that offered from the text, there should have

been no statistical difference between people selecting a physician offering a video versus only text.

Practical Implications

The current study offers numerous pieces of practical advice for healthcare systems seeking ways to improve the biographical offerings of their physicians. First, personal information is important to include in family medicine physicians' biographies, despite what formative research from potential audiences might say. For example, in this study participants rated the importance of knowing personal hobbies and interests of the physician outside of medicine significantly below the midpoint of a seven-point scale, (M=2.57, SD=1.38). Therefore, a healthcare system might look at this data and come to the conclusion that personal information about a physician would not be important to include in future biographies. However, this is a care where actions speak louder than attitudes. As reported, a post hoc analysis found that in situations where participants were presented with both a personal and a professional biography, a significant percentage of individuals (65.5%) chose the physician whose biography contained more personal information. Using this choice selection as an indicator of information importance, more participants clearly want to choose a family medicine physician who they know more personal information about. This belief is corroborated through the open-ended responses coded where participants indicated why they selected the physician that they did. Nearly 19% of participants indicated they selected the physician they did because she seemed more relatable, and 16% because she seemed more similar; the fourth and fifth most prevalent responses behind responses of expertise, personality, and philosophy of care. Clearly information that provides expertise and competency information is important to provide in these biographies. However, like in this study, when these characteristics are held constant across

physicians, and patients are forced to make a choice, they are more likely to choose a physician who they can relate to and with whom they feel more similar. These feelings are more likely to be perceived if personal information is provided within physicians' biographies.

Second, this study provides clear evidence that prospective patients find the medium of video helpful when choosing a family medicine physician. As stated previously, participants were more likely to choose a physician offering a video biography when the information provided in the biographies offered was of the same kind (i.e., either both professional or both personal). Additionally, prior to viewing any biographies participants rated the level of importance of seeing a video introduction of a family medicine physician as slightly unimportant on a seven-point scale (M=3.11, SD=1.55). However, after being exposed to either one or two video biographies, participants overwhelmingly stated that they found the videos to be useful additions, that they wished all biographies they would see in the future would have videos included, and the next time they need to choose a new family medicine physician they will specifically look for biographies that contain videos (see post-hoc analyses in results section).

Third, video biographies of physicians have the potential to lead to greater anticipated levels of patient satisfaction and the quality of care prospective patients believe they would receive from family medicine physicians. Biographies containing videos were related to higher scores on these important measures than simply text-only biographies. These dependent variables are important for healthcare systems, especially in metropolitan areas where there may be multiple systems competing for a patient's business. Prospective patients are unlikely to choose physicians with whom they do not believe they would be able to receive high satisfaction and quality care. As a result, health systems providing video biographies could gain a competitive advantage over in-town rivals if they provided video biographies of their physicians.

Fourth, this study provides clear recommendations for healthcare systems that have created, or are thinking about creating, video biographies of their physicians. Through open-ended responses about their thoughts toward the video biographies, participants stated they would like to see additional footage provided in the video biographies (e.g., showing footage of the doctor's office, video of the doctor interacting with patients or staff). This extra information participants stated they would want included in the videos is corroborated by the level of importance participants stated they placed on knowing various pieces of information before selecting a new family medicine physician (see Table 4). Participants stated it was important to know how a doctor communicates during consultations, what the doctor's office staff are like, as well as what the office looks like. This information could easily be included in the videos by overlaying these images on-top-of the sound bites of the physicians. Adding this additional footage would also help to reduce the choppiness of the editing as was noted by some participants in ways to improve the videos, and improve the overall quality of the videos shown. This study also queried participants about their opinions regarding the ideal length of video biographies. The majority of participants stated the ideal length of videos should be between 60-90 seconds.

Finally, it appears as though participants want a mix of both professional and personal information provided in the biographies, not an "all-or-nothing" approach to the information that is provided. Participants who viewed a personal video stated they wished there was more professional information, and those who viewed a professional video stated they wished there was more personal information. Healthcare systems should provide biographies that offer a balance of both personal and professional information. Future studies could test what the ideal mix of personal to professional information in biographies would be.

Limitations and Future Directions

The high level of internal validity sought in this study leads to some limitations in the study's design and implementation, which provide excellent future directions for this line of research. The first limitation of this study is that only one gender of participants was utilized, and only one gender of physician was used. For generalizability purposes future studies should expand the study to males, and also include male physicians to the biographical mix.

Second, participants were of a highly skewed ethnic makeup. Only eight-percent of participants did not classify themselves as Caucasian. While this ethnic makeup of the participants for the current study led to a higher likelihood that participants would perceive greater levels of similarity between themselves and the physician biographies offered, as both physicians were Caucasian females, it also does not allow the results to be generalized more broadly across the ethnic spectrum. Future studies should not only try and recruit a more diverse, ethnic sample of participants, but also should vary the nationality of physician biographies offered. For example, previous research has found that African American patients who have a choice of which primary care physician to visit will more often have a physician of their same race than patients who are not given a choice (LaVeist & Carroll, 2002). Also, patients with race-concordant primary physicians report higher levels of satisfaction (LaVeist & Carroll, 2002; Saha et al., 1999) and that their physicians are more participatory (Cooper-Patrick et al., 1999) than patients with physicians of different races from themselves. If given two biographies of similarly competent family medicine physicians of different ethnicities, and possibly with different fluencies of the English language, would the current study's same hypotheses hold true?

Additionally, with the richer medium of video where prospective patients can more easily perceive personality characteristics, and other non-verbal behaviors of doctors, it would be important to measure if possibly an implicit bias toward selecting a physician of one's own nationality may disappear if the medium of video can show physicians as being equally competent and welcoming. For example, this potential power of video was illustrated by Gerbert et al. (2003). In their study, participants' initial, primarily same-race physician selection significantly changed after viewing lengthier video segments of six different-race physicians. The authors posit that participants were more receptive to selecting a physician of a different race after viewing the videos because initially held stereotypes may have been disconfirmed by actually seeing the different-race doctors displaying the same patient-centered qualities (e.g., friendly disposition, warm tone) as other doctors of the participants' same race (Gerbert et al., 2003). The videos used in the Gerbert et al. (2003) study, however, were just short videos where the doctors said their names, and then explained a 45 second health message about eating 5 fruits and vegetables a day. The videos were not focused on introducing a potential patient to future medical care from those physicians, which is something future studies should utilize.

Patients who are race-concordant with their physicians are also more likely to use health services and less likely to delay seeking care when they are ill than patients who are race-discordant with their physicians (LaVeist, Nuru-Jeter, & Jones, 2003). Qualitative research with Hispanic individuals has found that these individuals would delay seeking medical help in the face of symptoms if they were unable to find a physician who was like them or of the same race (Larkey et al., 2001). With the severe shortage of Hispanic physicians in the United States (Rodriguez, 2010), it would seem commonsense that healthcare systems would want to provide expanded amounts of information about their physicians, especially those who are non-white, in

hopes of helping ethnic populations more easily find a physician with whom they feel close to when symptoms first appear and before those symptoms get out of control. Would minority populations be more likely to seek care in the face of symptoms if they had more personal information about their physician options? Also people, regardless of their ethnicity, might simply be apprehensive seeking care from an unfamiliar doctor. Would apprehensive people in-general be more likely, or have higher behavioral intention, to make a medical appointment if they had greater access to personal information about potential physicians, thereby making them less of a stranger? These are empirical questions that could be tested in future research.

Third, participants were only exposed to two physicians' biographies. However, the majority of participants stated they normally consider between 2-5 family medicine physicians before making a choice. Future studies should try to expand the number of physician biographies participants can view, helping to lead to greater external validity.

Fourth, the text biographies were an exact verbatim transcript of what the physicians said in their video biographies, except for their education and residency information. While this provides a clean test of media richness, it also has the possibility of leading to some negative consequences with regards to participants' perceptions of the doctors they are viewing. People do not often speak in complete and grammatically correct sentences, meaning the text biographies could sometimes appear choppy and not always grammatically correct. In fact 5.3% of participants in open-ended responses indicated that they chose one physician over the other simply because one biography seemed better written than the other. Future studies directly testing videos against their textual counterparts may want to slightly manipulate the text present to ensure grammatical correctness, however remaining cognizant to not completely change the overall meaning of what is being said.

Finally, this study only looked at prospective patients seeking their next family medicine physician. This physician-patient relationship is likely one that will extend beyond more than one visit or procedure. Finding a family medicine physician with whom a patient can have a lasting relationship can lead to greater levels of trust, accumulated knowledge, and increased awareness of preventive services that doctors need to deliver to patients (Parchman & Burge, 2004). It is also a relationship where friendships could develop (Caplan, 2013) possibly because of the frequency with which patients see their family medicine physicians. What people are seeking in a specialist physician (e.g., surgeon), someone with whom they are visiting for a specific purpose and possibly only once, might be quite different from what they are seeking in a family medicine physician who they expect to visit numerous times over their lifetime. Therefore, future studies should not only ask what prospective patients find important in knowing about specialists, but also seeing if the hypotheses from the current study would remain consistent when seeking a specialist's care.

Conclusion

As long as people keep getting sick, individuals will always be seeking new physicians to visit. While friends and family are still the primary sources individuals go to when seeking advice about new family medicine physicians, querying the biographies of physicians via health systems' websites, and viewing patient comments provided online, are not far behind. Seeking information from family and friends lends evidence to the fact that prospective patients are likely looking for interpersonal aspects of the quality of care they may receive, as well as nontechnical information about the physician (Harris & Buntin, 2008). However, not everyone has family or friends to consult when they are making this important decision, and therefore likely turn to information provided by healthcare systems to aid in their decision making. The interpersonal

qualities patients say they want to know are not currently readily available via biographies provided by healthcare systems (Perrault & Smreker, 2013).

Due to this paucity of information offered by healthcare systems about their own physicians, patients are likely referencing other third party rating websites to gather the information they would like to know to make an informed choice. For example, Emmert, Meier, Pisch, and Sander (2013) found that approximately one-quarter of their sample had referenced physician-rating websites to search for their doctors, and about half of those participants stated they had not visited a certain physician because of ratings they read. There are dozens of active physician-rating websites where patients can post comments about their physicians (Laugu, Hannon, Rothberg, & Lindenauer, 2010), with the majority of these comments being positive and endorsing the physicians (Lopez, Detz, Ratanawongsa, & Sarkar, 2012). However, in the Wild West of the Internet, some of these patient comments could be completely wrong or blown out of proportion, possibly jeopardizing the bottom-lines and reputations of physicians and healthcare systems.

Physicians and healthcare systems should be taking proactive steps in creating information for patients that can provide more useful information than what is provided via third-party patient-rating websites (Aungst, 2008). It is unclear from which information source patients first seek their information about new physicians; the current data reveal that about 94% seek information from more than one source. However, a candid video of the physician, and greater amounts of personal information provided about the physician, which would not be available via other third-party platforms, could provide the primary impression formation that can help patients choose a family medicine physician that best matches all of the qualities they are looking for.

Patient comments on the Internet are not going away, but healthcare systems can take steps to ensure that these are not the sole places individuals are going to make their decisions by providing prospective patients with the information they want. As this study shows, by providing a video of the physician, as well as personal information, more uncertainty can be reduced than simply providing a text biography and one containing only professional information. Video biographies also can lead to greater perceptions of anticipated patient satisfaction and the quality of medical care to be received. It appears that indeed a video is worth more than 200 words.

APPENDICES

Appendix A
Tables

Table 1

Pre-test results between the five physicians on the five different dependent measures

Dependent Variable	Biography Type	Dr. Jill	Dr. Robin	Dr. Julie	Dr. Corrine	Dr. Kathy
Attractiveness	On photo n=64	4.60_{a} (0.77)	4.40_{a} (0.85)	3.71_{b} (1.05)	3.54_{b} (1.06)	3.25_{c} (1.14)
Similarity	Personal n=23	5.47_{a} (0.88)	5.41_{a} (1.07)	5.36_{a} (0.77)	4.80_{b} (1.15)	3.95_{c} (1.37)
	Professional n=30	4.74_{a} (1.10)	4.92_{a} (0.94)	4.80_{a} (0.98)	3.71_{b} (1.18)	3.88_{c} (1.10)
Trustworthy	Personal n=23	6.00_{a} (.91)	6.09_{a} (1.19)	5.95_{a} (.92)	5.99_{a} (1.02)	5.96_{a} (.94)
	Professional n=28	5.80_{a} (1.17)	6.05_{a} (0.96)	5.86_{a} (1.01)	5.22_{b} (1.26)	5.33_{b} (0.99)
Liking	Personal n=23	6.26_{ab} (0.54)	6.17_{a} (0.72)	5.93_{ab} (1.20)	5.54_{b} (1.08)	5.88_{b} (0.76)
	Professional n=28	5.64_{a} (1.04)	6.11_{a} (0.74)	5.86_{a} (0.77)	4.53_{b} (1.33)	4.80_{b} (1.24)
Expertise	Personal n=23	6.18_{a} (0.66)	5.99_{a} (0.90)	5.85_{a} (1.00)	5.71_{a} (1.02)	5.43_{a} (1.18)
	Professional n=29	5.63_{ab} (1.06)	5.79_{a} (0.97)	5.64_{a} (0.99)	5.21_{ab} (1.15)	5.02_{bc} (1.04)

Note: Row means with different subscripts differ at $p<.05$. Dr. Jill and Dr. Robin (the two columns lightly shaded) were chosen for the full study as they did not statistically differ among any of the five dependent measures.

Table 2

How patients seek information when deciding on a new family medicine physician

Information Source	Percentage of participants (%)	n
Asking friends	90.9	291
Asking family members	70.6	226
Reading physicians' online biographies provided on health systems' websites	66.7	213
Read patients' comments on the internet	59.1	189
Asking acquaintances/colleague	54.1	173
Asking another doctor	48.8	156
Other means	8.1	26

Note: "Other means" responses included seeking information via Facebook, checking with their insurance companies, calling hospitals/front desks directly, and going to Angie's List.

Table 3

The number of sources patients consult when deciding on a new family medicine physician

Number of Sources Consulted	Percentage of participants (%)	n
1	6.3	20
2	7.2	23
3	24.4	78
4	24.4	78
5	21.3	68
6	15.3	49
7	1.3	4

Table 4

How important each factor is to know when deciding on a family medicine physician for the first time

Information	Level of Importance *M* (*SD*)
How doctor communicates during consultations	6.67 (.65)**
Board Certification	6.32 (.96)**
Philosophy of care	6.31 (.84)**
What doctor's staff (nurses, office personnel) are like	6.17 (.77)**
Waiting time to get appointment	6.12 (.91)**
Areas of specialization/ Professional Interests	5.91 (1.04)**
Waiting time for visit	5.91 (1.04)**
Hospital affiliations	5.68 (1.28)**
What office looks like	5.32 (1.17)**
How long practicing medicine	5.19 (1.19)**
Physical Appearance of the Doctor	4.29 (1.65)*
Medical school	4.00 (1.56)
Languages spoken	3.97 (2.06)
Professional associations	3.91 (1.54)
Gender	3.86 (1.74)
Age	3.78 (1.56)
Residency attended	3.58 (1.58)**
Number of children	3.17 (1.64)**
Short introductory video	3.11 (1.55)**
Hobbies/interests outside of medicine	2.57 (1.38)**
Religion	2.51 (1.54)**
Ethnicity/race	2.41 (1.46)**
Marital status	2.17 (1.34)**

Note: Scale ranged from 1 (very unimportant) to 7 (very important).
** significantly different from the scale midpoint of 4 at $p<.001$
* significantly different from the scale midpoint of 4 at $p=.002$

Table 5

Summary statistics comparing the biographies of Dr. Jill and Dr. Robin

Dependent Variable	Biography Type	Doctor	*M* (*SD*)	N	ANOVA	*p*	η^2
Similarity	Personal	Jill	4.83 (0.84)	79			
		Robin	4.71 (1.06)	81			
		Total	4.77 (.95)				
	Professional	Jill	3.62 (.97)	82			
		Robin	4.01 (.98)	78	Between Types		
		Total	3.81 (.99)		$F(1,316)=78.60$	<.001	.195
	Totals	Jill	4.21 (1.09)	161	Between Doctors		
		Robin	4.37 (1.07)	159	$F(1,316)=1.66$	.200	.004
Trustworthiness	Personal	Jill	5.38 (1.00)	78			
		Robin	5.52 (1.07)	81			
		Total	5.45 (1.04)				
	Professional	Jill	5.18 (1.08)	82			
		Robin	5.25 (.85)	78	Between Types		
		Total	5.21 (.98)		$F(1,315)=4.40$	.04	.014
	Totals	Jill	5.27 (1.05)	160	Between Doctors		
		Robin	5.39 (.98)	159	$F(1,315)=0.96$	.33	.003
Expertise	Personal	Jill	5.35 (.94)	78			
		Robin	4.92(1.14)	80			
		Total	5.13 (1.07)				
	Professional	Jill	5.06(1.29)	82			
		Robin	5.31 (1.27)	78	Between Types		
		Total	5.18 (1.13)		$F(1,314)=0.15$	.70	<.001
	Totals	Jill	5.21 (1.14)	160	Between Doctors		
		Robin	5.11 (1.05)	158	$F(1,314)=0.63$	.43	.002
Attractiveness	Personal	Jill	4.76 (.95)	78			
		Robin	4.37 (.94)	81			
		Total	4.57 (.96)				
	Professional	Jill	4.58 (.95)	82			
		Robin	4.37 (.89)	78	Between Types		
		Total	4.48 (.92)		$F(1,315)=0.79$	.38	.002
	Totals	Jill	4.67 (.95)	160	Between Doctors		
		Robin	4.37 (.91)	159	$F(1,314)=8.55$	.004	.026
Liking	Personal	Jill	5.99 (.76)	79			
		Robin	5.98 (.79)	81			
		Total	5.99 (.78)				
	Professional	Jill	5.17 (1.14)	82			
		Robin	5.70 (.88)	77	Between Types		
		Total	5.43 (1.06)		$F(1,315)=29.70$	<.001	.083
	Totals	Jill	5.58 (1.05)	161	Between Doctors		
		Robin	5.84 (.85)	158	$F(1,314)=6.44$	.012	.018

Table 6

Summary of results for hypotheses 2-4

	Dependent Variable	Biography Medium	*M* (*SD*)	N	Between-Subjects ANOVA	*p*	η^2
H2	Uncertainty Reduction	Video & Text	4.11 (1.11)	160			
		Text Only	3.58 (1.17)	159	$F(1,317) = 17.07$	<.001	.051
H3	Quality of Medical Care	Video & Text	5.58 (1.05)	159			
		Text Only	5.06 (1.15)	160	$F(1,317) = 17.91$	<.001	.053
H4	Patient Satisfaction	Video & Text	5.29 (1.07)	159			
		Text Only	4.57(1.15)	159	$F(1,316) = 32.67$	<.001	.094

Table 7

Reasons provided for selecting the physician chosen (n=320)

Reasons given for selecting physician	Percentage of Participants (n)	Example Comment
Information provided		
Biography was better written	5.3% (17)	"The grammar in [Robin]'s was better than [Jill]'s biography."
More professional information provided	5.0% (16)	"More information on her background with her medical direction was given."
More personal information provided	5.0% (16)	"She communicated more specific things about her personal life."
Not interested in personal information	3.1% (10)	"I'm not interested in my doctor's personal life/interests."
Both professional and personal information was provided	1.3% (4)	"Being able to speak about both professional and personal life allows me to see if we would be a good fit."
Medium		
Video was helpful*	25.9% (70)	"The video helped to feel like you 'met' the doctor before going to the practice." "I would rather hear someone talk than read what they wrote."
Picture was helpful	3.1% (10)	"Her smile in the picture seemed more genuine."
Expertise	31.9% (102)	"She had more respectable qualifications."
Personality Characteristics	30.3% (97)	"She seems more friendly."
Philosophy of Care	21.9% (70)	"She appeared to be more interested in the whole person instead of just the medical side."
Relatable	18.8% (60)	"I feel like I could relate better to Dr. Jill."
Similarity to Patient	15.6% (50)	"I like that she seems like me."
Office/visit climate	11.6% (37)	"She seemed like she would make myself and my children comfortable."
Lifestyle	9.4% (30)	"Liked that she had a life besides work."
Familiar	7.5% (24)	"I feel like I know her."
Communication Competence of the Doctor	5.9% (19)	"I feel like I could talk to her."
Human-like	5.6% (18)	"She seemed like a real person."
Doctor's willingness to disclose	3.1% (10)	"I appreciate a physician who is willing to share part of who they are outside of the office."
Trustworthy	2.2% (7)	"I would trust her competency."

Note: *this percentage is only for the 270 participants who were exposed to a condition where they viewed at least one video.

Table 8

Additions and improvements participants would like to see to future physician videos

Information	Percent indicating (%)	n
Nothing	30.4	82
Professional information	15.9	43
Personal information	10.7	29
Office/facility footage	10.7	29
Philosophy of Care	10.0	27
Video of doctor in office/interacting with patients	5.6	15
Video of staff in office/interacting with patients	5.2	14
Quality of the video	4.4	12
Passion about the job	3.0	8
Information not contained in the text	2.2	6
Description regarding the practice they are in	1.5	4
Patient reviews/testimonials	1.5	4
Personal artifacts	1.5	4
Basic information	1.5	4
Fun questions	0.4	1
Multiple videos	0.4	1

Note: Percentages are calculated out of the 270 total participants who viewed a physician video.

Table 9

Participants' opinions of the length of video(s) they viewed

Response	Percent (%)	n
Very Good	41.9	113
Good	47.4	128
Okay	9.6	26
Poor	1.1	3
Very Poor	0	0

Table 10

Participants' opinions of the ideal length of physicians' video biographies

Length	Percent (%)	n
Fewer than 30 seconds	4.1	11
40 seconds	7.0	19
50 seconds	3.3	9
1 minute (60 seconds)	35.2	95
1:10 (70 seconds)	3.3	9
1:20 (80 seconds) the length of video viewed	18.1	49
1:30 (90 seconds)	15.9	43
1:40 (100 seconds)	2.6	7
1:50 (110 seconds)	1.5	4
2:00 (120 seconds)	7.8	21
Longer than two minutes	1.1	3

Appendix B
All Personal Text Biographies

Figure 1: Dr. Jill Personal Biography

Jill (M.D.)

Specialty: Family Medicine

Undergraduate: Michigan Tech University

Medical School: Michigan State University

Board Certification: Family Medicine

Residency: Michigan State University

About Me: I'm married; I've been married for 26 years. We have three children, two boys and a daughter. We have one pet; we have a little dog, and we live in the Williamston area. We've been there for about 12 years. I like to sew, decorate, enjoy cooking as a family, and just doing whatever my kids are doing.

We like to travel. We've been to Costa Rica. I've done some medical missions to Africa and Guatemala. And we like to ride bikes and walk and do some reading when I have time. I read a lot of forensic medicine mystery things. It's just kind of interesting to figure out what happened before the book tells me.

Philosophy of Care: I think it's probably that listening to the patient is the most important thing of taking care of them. I think it's important to have a sound medical foundation, and stay current, but recognizing that every patient is individual and if you don't listen to them you really don't know how to treat them.

Appendix B

Figure 2: Dr. Robin Personal Biography

Robin (M.D.)

Specialty: Family Medicine

Undergraduate: Rice University

Medical School: Michigan State University

Board Certification: Family Medicine

Residency: Sparrow Hospital

About Me: I'm married, and I have two children. My daughter is 11 and my son is 5 and a bundle of energy. I was from a little bit all over growing up. I actually lived in Lansing for much of my grade school.

I do a lot of things around town with my children. So we go out and do different activities, and go to see places, go bike riding, enjoy being outside whenever we can. I like to read, although I don't get much chance to do that. My latest enjoyment of reading have mostly been books around things my daughter is reading so we get a chance to discuss them. So, I've been reading Percy Jackson and enjoying that sort of thing. To be able to talk about it with an 11 year old is really a hoot.

Philosophy of Care: My philosophy of care is really to be a partner to my patients in making their health decisions. I like to get a chance to know someone - to get an understanding of their past medical history but also just their life and where they're at and what's important to them.

Appendix B

Figure 3: Dr. Julie Personal Biography

Julie _ (M.D.)

Specialty: Family Medicine

Undergraduate: Albion College

Medical School: University of Michigan

Board Certification: Family Medicine

Residency: University of Michigan

About Me: I'm married. I have a husband and I have a daughter, she's six years old, and we live here in the Lansing community. I grew up in Michigan, so my extended family is also in Michigan and nearby, and my family is very important to me - something that I really value.

I really enjoy outdoor activities. My family is very into boating, so we've done some boating, and we really like to do biking. I enjoy my garden. We like to do craft projects of all kinds and make things, and I like to make things out of textiles. So I like to sew, and I make quilts, and I knit, and I enjoy doing that with my daughter. I've been teaching her how to do some of those things, so that's been fun.

Philosophy of Care: My philosophy of care is to be really focused on the patient and the patient's goals, and to be reflective of the patient's needs. And I try to be a very good listener with patients and to really pay attention to what they need and what they want from their healthcare.

Appendix B

Figure 4: Dr. Corrine Personal Biography

Corrine (M.D.)

Specialty: Family Medicine

Undergraduate: University of Florida

Medical School: Nova Southeastern University

Board Certification: Family Medicine

Residency: Sparrow Hospital

About Me: I was born and raised in South Florida and moved to Michigan because this was the location that best fit at the time my new husband and my career plan. I have a 13-year-old son, an 11-year-old son, and twin daughters that are nine.

I'm kind of a museum geek. I drag my kids to museums, zoos, and those kinds of things. I'm not really into sports and that never really appealed to me, so I think it's more of an intellectual kind of pursuit. We don't have a lot of things that we do outside just plain-old hanging around. With a big family you don't need a lot of preplanned activities. The kids want to play soccer, you don't need a soccer team, you've got three siblings; here's a soccer ball go play soccer.

Philosophy of Care: Educating my patients and letting them help guide me toward the type of care that they feel that they need. So, I try to get to know my patients so I can present the information that they need in the way that makes most sense to their styles.

Appendix B

Figure 5: Dr. Kathy Personal Biography

Kathy (M.D.)

Specialty: Family Medicine

Undergraduate: Glenville State College

Medical School: West Virginia University

Board Certification: Family Medicine

Residency: Pontiac Hospital

About Me: I'm originally from New Jersey. I've lived in New Jersey, Pennsylvania, Ohio, West Virginia. We moved around a lot when I was a kid, and I was probably in seven different schools by the time I graduated from high school. I have a brother who's two years younger than me; he's a college professor in Florida, and he's married and has a daughter.

All of my kids have four paws. I have a cat who's ten and then I have two dogs that are six and five. I really like to take walks in the woods with the dogs, ride my bike a little. I watch a lot of TV - I'll be real honest - mostly stuff on the History Channel, Science Channel, you know all those kinds of channels.

Philosophy of Care: To get the best care possible for my patients and to make them comfortable with what their care plan is so that we're on the same ballpark and that they're comfortable with what I'm suggesting and I'm comfortable with what they would like done.

Appendix C
All Professional Text Biographies

Figure 6: Dr. Jill Professional Biography

Jill (M.D.)

Specialty: Family Medicine

Undergraduate: Michigan Tech University

Medical School: Michigan State University

Board Certification: Family Medicine

Residency: Michigan State University

About Me: I like procedures. I'm good with my hands, so I like to do a lot of excisions and repairs if somebody's cut or injured. We see moles and warts and lacerations that need repairs - all different things, from routine physicals preventative care, to acute illnesses from colds and ear infections to appendicitis, abdominal issues.

I do enjoy teaching and I have medical students and residents come through my office from time to time. I think chronic disease management is a special interest. I did some of my residency in internal medicine and that's something that I got good at taking care of, so patients who have hypertension and diabetes.

Philosophy of Care: I think it's probably that listening to the patient is the most important thing of taking care of them. I think it's important to have a sound medical foundation, and stay current, but recognizing that every patient is individual and if you don't listen to them you really don't know how to treat them.

Appendix C

Figure 7: Dr. Robin Professional Biography

Robin (M.D.)

Specialty: Family Medicine

Undergraduate: Rice University

Medical School: Michigan State University

Board Certification: Family Medicine

Residency: Sparrow Hospital

About Me: I chose family medicine because of the variety that comes with family medicine. I like to do a lot of different things. I often times think that the medical students that are intended to be family physicians are the ones who actually like everything, and that was certainly my experience. My professional interests in a clinical way are women's health and around mental healthcare in primary care settings.

I'm also very involved in medical education, so I do a lot of work with medical students, training them from the first and second year of medical school. We have been working on how we train medical students and how we give them more experience doing the types of things that they will really do later.

Philosophy of Care: My philosophy of care is really to be a partner to my patients in making their health decisions. I like to get a chance to know someone - to get an understanding of their past medical history but also just their life and where they're at and what's important to them.

Appendix C

Figure 8: Dr. Julie Professional Biography

Julie (M.D.)

Specialty: Family Medicine

Undergraduate: Albion College

Medical School: University of Michigan

Board Certification: Family Medicine

Residency: University of Michigan

About Me: In medical school you get to try a lot of different kinds of fields, and sort of see what fits you, and family medicine was the best fit for me because I'm really a big picture person and family medicine allows you to really focus on the big picture.

My primary professional interest is medical student teaching. I really enjoy medical student teaching and have a large focus on medical student education and how we can do that most effectively. I'm also very interested in the primary physician workforce, so I do some research on that, and how that interacts with medical education. I like taking care of children, that's one of my favorite things to do; one of the most enjoyable things for me.

Philosophy of Care: My philosophy of care is to be really focused on the patient and the patient's goals, and to be reflective of the patient's needs. And I try to be a very good listener with patients and to really pay attention to what they need and what they want from their healthcare.

Appendix C

Figure 9: Dr. Corrine Professional Biography

Corrine (M.D.)

Specialty: Family Medicine

Undergraduate: University of Florida

Medical School: Nova Southeastern University

Board Certification: Family Medicine

Residency: Sparrow Hospital

About Me: Originally I wanted to be a forensic pathologist, and I figured that nobody would want me in their medical schools if they realized I was looking to work on dead people, so family practice was kind of the default.

I see everything from newborns to dermatology, orthopedics, gynecology, geriatrics, psychiatry, pulmonology - I see it all every day. Maybe not everything every day, but I see it all. I volunteer with the community faculty with teaching, so I think that's pretty much my main thing. Actually, if I could have an academic practice, where I was essentially in-charge of a whole group of medical students, that would be awesome.

Philosophy of Care: Educating my patients and letting them help guide me toward the type of care that they feel that they need. So, I try to get to know my patients so I can present the information that they need in the way that makes most sense to their styles.

Appendix C

Figure 10: Dr. Kathy Professional Biography

Kathy (M.D.)

Specialty: Family Medicine

Undergraduate: Glenville State College

Medical School: West Virginia University

Board Certification: Family Medicine

Residency: Pontiac Hospital

About Me: When I was in my residency I did a lot of different rotations in different fields and I liked family medicine the best because it gave me the opportunity to do pretty much whatever I wanted, and also to not do what I didn't want to do. So, you can pretty much tailor your practice to the things that you like to do.

I probably like to see the most the people with the chronic conditions, the diabetes and COPD and things like that. There's pretty much not anything that we don't treat. It could be anything from the common cold to life threatening situations. Occasionally people come in here when they really should have gone to the hospital and we end up having to treat them here and have to make that transfer to the hospital.

Philosophy of Care: To get the best care possible for my patients and to make them comfortable with what their care plan is so that we're on the same ballpark and that they're comfortable with what I'm suggesting and I'm comfortable with what they would like done.

Appendix D
Physician Scenario

Please carefully and completely read the following paragraphs. Imagine that you are the patient in the following scenario.

You recently found out that your health insurance plan is changing and your coverage will no longer allow you to see the family medicine doctor that you and your family have been visiting for years. Now you are forced to find a new doctor that your insurance will accept. You ask your co-workers, family, and friends who they recommend, but because none of them visit a physician who is covered by your plan, they are of no use.

So, you find the website of the clinic nearest to your house that has physicians your health insurance plan will cover. At that website you find two potential family medicine physicians who are covered by your insurance who could work for you.

On the following pages you will see the two biographies of the different doctors. Some may contain videos and some may contain text. **Please read the biographies, and view the content regarding each of them, with your utmost attention**, and then answer the series of questions following each biography. After you have read and viewed the two biographies you must then decide which physician you would like to choose to be your family medicine physician.

Appendix E
Organization of 24 Conditions

Participants were randomly assigned to one of these conditions.

Dr. Jill First

1. Jill personal text – vs – Robin personal video
2. Jill personal text – vs – Robin professional video
3. Jill personal text – vs – Robin professional text

4. Jill personal video – vs – Robin personal text
5. Jill personal video – vs – Robin professional video
6. Jill personal video – vs – Robin professional text

7. Jill professional text – vs – Robin personal text
8. Jill professional text – vs – Robin personal video
9. Jill professional text – vs – Robin professional video

10. Jill professional video – vs – Robin personal text
11. Jill professional video – vs – Robin personal video
12. Jill professional video – vs – Robin professional text

Dr. Robin First

13. Robin personal_text – vs – Jill personal video
14. Robin personal_text – vs – Jill professional video
15. Robin personal_text – vs – Jill professional text

16. Robin personal video – vs – Jill personal text
17. Robin personal video – vs – Jill professional video
18. Robin personal video – vs – Jill professional text

19. Robin professional text – vs – Jill personal text
20. Robin professional text – vs – Jill personal video
21. Robin professional text – vs – Jill professional video

22. Robin professional video – vs – Jill personal text
23. Robin professional video – vs – Jill personal video
24. Robin professional video – vs – Jill professional text

Appendix F
Measures

Similarity/Homophily

Based only on the biography you just viewed, please indicate your level of agreement with the following statements regarding Dr. (Jill/ Robin): (1=strongly disagree; 7=strongly agree)

1. This doctor thinks like me
2. This doctor is like me
3. This doctor is similar to me
4. This doctor behaves like me
5. This doctor has thoughts and ideas that are similar to mine
6. This doctor has many things in common with me
7. I can relate to this doctor

Uncertainty

Please indicate your level of certainty/knowledge about Dr. (Jill/ Robin): (1=not at all; 7=extremely well)

1. How well do you understand this doctor's feelings?
2. How well do you understand this doctor's values?
3. How well can you predict this doctor's decisions?
4. How well can you predict this doctor's attitudes?
5. How well do you understand this doctor's judgments?

Anticipated Patient Satisfaction

For the following pairs of words, please indicate how pleased/satisfied/comfortable/happy/secure you would be if you visited with this physician by marking where you would fall on the continuum.

1. Displeased ___ / ___ / ___ / ___ / ___ / ___ /___ Pleased
2. Dissatisfied ___ / ___ / ___ / ___ / ___ / ___ /___ Satisfied
3. Uncomfortable ___ / ___ / ___ / ___ / ___ / ___ /___ Comfortable
4. Unhappy ___ / ___ / ___ / ___ / ___ / ___ /___ Happy
5. Unsecure ___ / ___ / ___ / ___ / ___ / ___ /___ Secure

Anticipated Quality of Medical Care

For the following pairs of words, please indicate where you would fall along the continuum provided.

- The kind of medical care I would get from this physician would be:

1. Impersonal ___ / ___ / ___ / ___ / ___ / ___ /___ Personal
2. Uncaring ___ / ___ / ___ / ___ / ___ / ___ /___ Caring
3. Unconcerned ___ / ___ / ___ / ___ / ___ / ___ /___ Concerned
4. Unsatisfactory ___ / ___ / ___ / ___ / ___ / ___ /___ Satisfactory

Appendix F

Likeability

Please indicated your level of agreement with the following statements regarding Dr. (Jill/ Robin). (1=strongly disagree; 7=strongly agree)

1. This doctor seems like a nice person
2. This doctor seems pleasant
3. This doctor seems likeable
4. This doctor seems friendly
5. This doctor seems personable

Trustworthiness

For Dr. (Jill/ Robin), please rate where you fall on the continuum for the following six pairs of words.

1. Undependable ___ / ___ / ___ / ___ / ___ / ___ /___ Dependable
2. Dishonest ___ / ___ / ___ / ___ / ___ / ___ /___ Honest
3. Unreliable ___ / ___ / ___ / ___ / ___ / ___ /___ Reliable
4. Insincere ___ / ___ / ___ / ___ / ___ / ___ /___ Sincere
5. Untrustworthy ___ / ___ / ___ / ___ / ___ / ___ /___ Trustworthy
6. Phony ___ / ___ / ___ / ___ / ___ / ___ /___ Genuine

Expertise

For Dr. (Jill/ Robin), please rate where you fall on the continuum for the following six pairs of words.

1. Not an expert ___ / ___ / ___ / ___ / ___ / ___ /___ Expert
2. Inexperienced ___ / ___ / ___ / ___ / ___ / ___ /___ Experienced
3. Incompetent ___ / ___ / ___ / ___ / ___ / ___ /___ Competent
4. Unqualified ___ / ___ / ___ / ___ / ___ / ___ /___ Qualified
5. Unskilled ___ / ___ / ___ / ___ / ___ / ___ /___ Skilled
6. Stupid ___ / ___ / ___ / ___ / ___ / ___ /___ Smart

Attractiveness

For Dr. (Jill/ Robin), please rate where you fall on the continuum for the following four pairs of words.

1. Unattractive ___ / ___ / ___ / ___ / ___ / ___ /___ Attractive
2. Not classy ___ / ___ / ___ / ___ / ___ / ___ /___ Classy
3. Ugly ___ / ___ / ___ / ___ / ___ / ___ /___ Beautiful
4. Plain ___ / ___ / ___ / ___ / ___ / ___ /___ Elegant

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