The Effect of Controlling Messages on Doctor-Patient Communication

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THE EFFECT OF CONTROLLING MESSAGES ON DOCTOR-PATIENT COMMUNICATION

by

KAYLA LADEZ

A thesis submitted in partial fulfillment of the requirements for the Honors in the Major Program in Psychology in the College of Sciences and in The Burnett Honors College at the University of Central Florida Orlando, Florida

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Thesis Chair: Dr. Valerie Sims
ABSTRACT

The doctor-patient relationship is a very important aspect of a patient’s health and wellbeing. It is a complex relationship that requires trust and understanding by both parties. Doctor shopping and changes in technology that allow patients to independently learn about their health have further complicated this relationship. This study looks at how participants perceive controlling language depending on the gender of the doctor. Participants were 339 University of Central Florida undergraduate students (112 men and 227 women, age M= 19.29, SD = 3.60) recruited through SONA. Participants first listened to a recording of a male or female doctor speaking to a patient using high or low level controlling language. They then answered questions about their opinion of the doctor, how they would behave in the patient’s situation, and their beliefs about the role of doctors in the doctor-patient relationship. Results indicated both level of controlling language and doctor gender had significant effects on participants’ perception of the doctor. Doctors who spoke with high level controlling language were seen as less helpful and supportive than doctors who spoke with low level controlling language. Participants also were less likely to recommend them to another person. Male doctors were seen as more rude than female doctors. These results suggest that doctors must communicate with each patient in that makes them both the most comfortable, and that male doctors may need to work harder to communicate empathy to their patients.
ACKNOWLEDGMENTS

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CHAPTER ONE: LITERATURE REVIEW

Doctors used to be gods. More educated than the general public, they were respected like no other occupation. Their recommendations were followed blindly, and most believed they always acted in the patient’s best interests. Recently, however, the public has begun seeing doctors in a much more human light. The phrase “practicing medicine” has become a literal representation of patients noticing flaws in their doctors’ words and actions. The increased broadcast of physician mistakes and conflicts of interest may further encourage patients to distrust their doctors (Roberts, 2017). The combination of doubt and availability of information has created the perfect environment to encourage patients to take control of their health. One way patients are able to control the relationship with their doctor is through communication. Asking questions and making decisions based on information, found independently or explained by the doctor, allows patients to be an active partner in their health.

When patients do not feel as though they can communicate with their doctors, they may choose to doctor shop, or visit multiple doctors for one purpose or illness (Sansone & Sansone, 2012). For instance, unsuccessful in vitro fertilization patients were recently interviewed and reported they doctor shopped for many reasons, including feeling a lack of communication and empathy from their physician (Klitzman, 2017). However, this phenomenon is not isolated to fertility treatment. Surveyed patients seeking primary care also reported doctor shopping because of concerns about the technical and emotional skills of their doctor (Kasteler, Kane, Olsen, & Thetford, 1976). Even though researchers have documented this phenomenon over the last four decades, the number of people doctor shopping is widely debated.
Previous research has occasionally studied the doctor-patient relationship by focusing on either communication type or gender of the practicing physician, but has not combined these two areas. In practice, gender and the use of verbal language are variables that interact in many ways that researchers must carefully consider. Therefore, it is important that researchers determine how gender of the physician affects the patient’s perception of controlling messages. This issue is even more critical to study now that in the United States there are more women enrolled in medical school than men (“More women than men”, 2017).

Research on communication has focused on how it can be broken down into different components, and how each component affects a relationship. Since distrust frequently stems from unmet expectations, communication is immensely important in the doctor-patient relationship (Hawley, 2015). Communication between doctors and their patients can be separated into two equally important pieces. The first is the empathy the doctor offers the patient about the situation, which the patient must identify. The second is the explanation of the medical information by the doctor so that the patient can easily understand (Hariharan, Rao, Rana, & Swain, 2015). Medical schools have used this information to begin teaching students communication skills included in traditional curriculum. A review of the literature on doctor communication training in China confirmed that young doctors can learn good communication skills in medical school, such as explaining medical information well, but empathy must be instinctive (Liu et al., 2015).

One reason doctors and their patients have had slightly strained relationships could be due to poor communication of empathy. A few common stereotypes of health professional relationships are that doctors are cold superiors who do not know or care about their patients, but
nurses are nurturing equals to their patients. This stereotype seems to stem from the bedside manner of both doctors and nurses. Doctors come and go through hospital rooms quickly reading charts and emphasize treating disease, while nurses also focus on the patient’s emotional health. This leaves many patients wanting more time and better communication from their doctor (Mark, 2013).

Other research has claimed the fragment in the relationship between doctors and their patients actually may have more to do with the doctor’s education than with his/her bedside manner. Surveyed doctors reported that when communicating with patients they take their medical knowledge and convert it into “everyday language”. Patients, though, reported they did not perceive this and therefore they tried to speak to doctors in “medical language.” The apparent communication gap between doctors and patients can further strain the relationship (Bourhis, 1989).

Nonverbal communication is just as important as verbal communication. After video and audio recording interactions between doctors and their patients, it was found that doctors control much of the conversation with non-verbal body language. This is not to say that doctors are using body language to convey their power over the patient. It seems the more likely explanation is simply that doctors are trying to effectively multitask by paying attention to the patient while simultaneous working on other tasks such as reading charts or test results. Doctors and their patients both report being especially aware of their body language, verbal language, and gaze when interacting with each other because both parties want the conversation to be relaxed (Robinson, 1998). This kind of intentional dialogue between doctors and patients is the first step
to change the traditional roles of each party and may allow for a more comfortable patient-centered approach to medicine.

The focus on comfortable communication actually leads some doctors to avoid words that may be perceived as painful or awkward to a patient. Many doctors report that they completely avoid using words that can have a negative connotation. While a word, such as obese, may make patients realize the severity of the issue, it also can cause anxiety. Yet, when participants read a short vignette saying either their doctor just told them they were obese or told them their “weight may be damaging their health,” Tailor and Ogden (2009) found that participants who actually were obese preferred the forward term of obese compared to the softer euphemism. They also found that the term obese made people perceive the problem as more serious than the euphemism. Doctors must decide whether it is more important to protect their patient’s feelings or have their patient take health risks seriously based on each individual patient (Tailor & Ogden, 2009).

The expectations patients have about interactions with their doctors, including the use of controlling language and the communication style between physicians and patients, can be summed up with the Patient-Practitioner Orientation Scale. This scale determines where patients fall on a continuum regarding their preferred communication style with their doctors. Patients who score on the paternalistic or disease centered side want their physicians to make medical decisions with little input from themselves. Patients who score on the opposite side of the scale fall on the consumerist or patient centered side. These patients prefer their doctor discuss their health in detail so they can make any decisions alone or as a team with the doctor (Krupat et al., 2000).
The main ideas of the Patient-Practitioner Orientation Scale can be boiled down to which party has the most control. The definition of control used in this study is the same as what has been used in previous research on the topic. Control is shared between the doctor and the patient by how often the patient is able to ask questions, and if the doctor encourages the participation (Levenstein et al., 1989). This study uses words such as “must” to imply no other option besides the recommendation in the messages used. The specific words and phrasing of those words in each message either demands action or suggests a “moral obligation” (Lanceley, 1985).

Patient differences determine their expectations about how they believe a doctor should communicate. Averbeck (2015) conducted research to see how different participants would perceive controlling language based on where they fell on the Patient-Practitioner Orientation Scale. Participants first indicated if they planned to exercise the next week and answered the Patient-Practitioner Orientation Scale. They then read a message, containing high or low level controlling language, from a doctor that encouraged them to exercise more often. They were then asked again if they planned to exercise in the next week, if they thought the message was controlling, and other demographic information. Results indicated that participants who scored on the disease centered side of the Patient-Practitioner Orientation Scale expected their doctors to talk with high levels of controlling language, whereas patients who fell on the patient centered side of the scale expected low levels of controlling language. Participants reported feeling angry whenever expectations were not met. Still, even when participants did not appreciate the doctor’s use of controlling language, most reported they would follow the doctor’s recommendations (Averbeck, 2015).
Other research has focused on the effect that the gender of a doctor could have on the doctor-patient relationship. Through surveys of patients about their actual doctors it was found that female doctors were less likely to have disagreements with male or female patients about nutrition, and female patients about exercise. Male doctors were more likely to have disagreements with female patients about the need for weight loss (Schieber et al., 2014).

Another study looked into the effects of sex differences by having participants look at a picture of a male or female doctor and answer survey questions. They found that participants considered female doctors as having better communication skills and personal manner, and more accurate diagnoses (Shah & Odgen, 2006). One reason patients think about these doctors differently may be because male and female doctors typically handle appointments in different ways. Through video recordings of initial appointments with a doctor at a primary care clinic, it has been found that female doctors offer more emotional support and preventative services, while male doctors use most of the appointment listening to the patient’s history and completing physical examinations. When surveyed after their appointments, patients of female doctors reported being more satisfied than patients of male doctors (Bertakis, Helms, Callahan, Azari, & Robbins, 1995).

The only data more important than patient satisfaction is mortality rates. Research has shown that there too, female doctors thrive. A study of readmission and mortality rates of Medicare patients 65 years or older found that patients of female doctors had less readmission and mortality rates compared to patients treated by male doctors in the hospital (Tsugawa et al., 2017).

Technology has created an outlet for unsatisfied patients. From homemade blogs to legitimate informational websites, there is an immense amount of medical information online. In
2012, one-third of Americans surveyed stated they used the internet to research medical information pertaining to themselves or a family member. Yet, only 41% reported they had ever had a doctor confirm a diagnosis they found online (Fox & Duggan, 2013). Now that the internet has allowed many people to become more knowledgeable about various medical topics it is no longer necessary for a patient to thoughtlessly follow a doctor’s recommendation. A survey of parents of pediatric patients found that they searched the internet before and after visiting their child’s doctor looking mostly for the cause, treatment, medications, and likely outcome of their child’s illness. Some parents reported they looked to the internet because they felt the doctor was too busy. A considerably smaller portion of the population reported other reasons such as feeling the doctor did not know enough, was unwilling to share information, or did not care (Harvey, Memon, Khan, & Yasin, 2017).

The purpose of the present study is to examine the effects of controlling language, used by male and female doctors, on doctor-patient communication. By combining all previous research, we hypothesize participants will have disagreements with doctors when high level controlling language is present. Participants also will have more disagreements with male doctors than female doctors. Finally, participants will have disagreements with male doctors in the high level controlling message. Disagreements are defined by participants experiencing some negative emotions measured or the participant refusing to follow the doctor’s recommendations, see the doctor again, or recommend the doctor.

The present study differs from previous research not only in its combination of variables (doctor gender and use of controlling language), but also in the form they are presented to the participant. The use of auditory messages allows participants to immediately recognize a man or
women’s voice, and to realistically envision talking with a doctor. The audio message also removes other variables that could affect the participants’ judgement. By not allowing participants to know the name of the doctor or see a picture, it is less likely they would assume extraneous information such as the doctor’s age or race.
CHAPTER TWO: METHOD

Design

The design was between subjects 2 (gender of the prescribing doctor) x 2 (level of a controlling message). The independent variables were the prescribing doctor being male or female, and the message using high or low levels of controlling language. The dependent variables were measured using the below mentioned questionnaire and scales.

Participants

This study included 579 students from the University of Central Florida (UCF). Of those students, a total of 240 had to be removed for different reasons such as missing the manipulation check question or skipping questions. In total, 339 participants (112 men and 227 women) were included in the data analysis. These participants reported their ethnicities as 65.19% White, 12.68% Black or African American, 1.47% American Indian or Alaska Native, 10.03% Asian, and 10.62% other with an average age of 19.29 years old (SD = 3.60). Students volunteered after signing up from the online UCF SONA portal and received SONA credit in return for their time. SONA is an university affiliated website that presents willing student participants with numerous research studies they can chose to complete for various amounts of extra credit in their psychology classes.

Materials

Messages

Audio messages were recorded by two professional actors. The messages used in this study were slightly modified from messages used in previous research that showed they did
express two levels of controlling language (Miller et al., 2007). One question of the questionnaire in the current study showed that the high level controlling message was perceived as more controlling than the low level controlling message, so any modifications made to the messages did not change the manipulation. Audio messages were used instead of written vignettes because most initial doctor-patient interactions are done verbally.

Questionnaire

In order to assess certain emotions and perceptions of the doctors and messages used in this study, an 18-statement questionnaire was created. Responses were recorded on a 1-5 Likert scale, with 1 referring to strongly disagree and 5 referring to strongly agree. The questionnaire included a manipulation check to confirm the high level controlling message was perceived as more controlling than the low level controlling message. Statements asked participants to rate different emotions, such as how angry the doctor made them feel, and perceptions of the doctor, such as if they would recommend this doctor to another person. The mean scores of each question were analyzed.

Patient-Practitioner Orientation Scale

The Patient-Practitioner Orientation Scale measures how people want to interact with their doctors. Analysis of this scale allows for three separate factors. The mean of the scale shows a range of scores varying from low to high, with low scores (1) indicating disease centeredness and high scores (6) indicating patient centeredness. The scale also has dimensions for sharing and caring. Sharing refers to the belief that the doctor should share power with the patient to make medical decisions. Caring refers to the belief that the doctor should care about
the patient’s overall wellbeing, including emotions and feelings about the doctor-patient relationship, instead of just the disease (Krupat et al., 2000).

The scale is made up of 18 questions. A mean score, which can be represented by the aforementioned scale from disease centeredness to patient centeredness, can be calculated. Both dimensions are also calculated by the mean of 9 of the 18 questions. Reverse coding is necessary on some questions (Krupat et al., 2000).

Perceived Credibility Scale

The Perceived Credibility scale is meant to measure the credibility of a person based on the dimensions of competence, trustworthiness, and goodwill/caring. While competence and trustworthiness dimensions are straightforward, the goodwill/caring construct has multiple components. This concept focuses on the idea that it is important for one to show understanding, empathy, and responsiveness to effectively communicate that they care about a person’s thoughts, ideas, and feelings (McCroskey & Teven, 1999). It is especially important for doctors to communicate these elements effectively so that patients feel comfortable in their relationship.

The scale is made up of 18 questions where participants are asked to select a number between a set of words, such as intelligent and unintelligent, based on their perception of the doctor in the message. By choosing a number closer to one word, the participant is reporting stronger agreement with that word. Scores for each dimension are calculated by adding 6 of the 18 questions together, and reverse coding is necessary on some questions. The sum creates a score ranging from 6-42, with a higher score referring to more agreement of that dimension. (McCroskey & Teven, 1999).
Procedures

This study took place online through the program Qualtrics. Participants first agreed to partake in the research study and read instructions to turn on the volume on their computer. They then listened to a voicemail from a conversation between a doctor and a patient after a general checkup. The message focused on the doctor’s recommendations for the patient and emphasized how exercise is good for the patient’s physical and mental health. It was either from the voice of a male or female doctor, and each message contained a low or high level of controlling language. Participants then responded to several questions about their opinions of the doctor, the Patient-Practitioner Orientation Scale, the Perceived Credibility scale, and demographic questions. The scales, questionnaires, and transcriptions of the messages can be found in the attached appendix.
CHAPTER THREE: RESULTS

This was a very controlling message.

In order to confirm that the messages produced two levels of control, the question, “This was a very controlling message” was analyzed. A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for gender of prescribing doctor (F (1,331) = 4.35, p = .038). Female doctors (M = 2.89, SD = 1.24) were rated less controlling than male doctors (M = 3.24, SD = 1.27). There was also a main effect for level of controlling message (F (1,331) = 19.72, p < .001). High level controlling messages (M = 3.39, SD = 1.23) were rated more controlling than low level controlling messages (M = 2.73, SD = 1.21). Finally, there was a significant interaction (F (1,331) = 6.83, p = .009). An independent sample t-test indicated there was a significant difference between the male doctor using the high level of controlling message all other conditions (t (337) = 4.96, p < .001). This effect can be seen in figure 1.

![Figure 1: This figure shows a significant interaction between gender of doctor and level of controlling message.](image-url)
I would recommend this doctor to another person.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message (F (1,331) = 6.59, p = .011). The doctors in the low level controlling messages (M = 3.87, SD = 1.07) were more recommended than those in the high level controlling messages (M = 3.52, SD = 1.16).

This doctor seemed appropriate.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message (F (1,331) = 16.37, p < .001). Low level controlling messages (M = 4.23, SD = .93) were rated as more appropriate doctor behavior than high level controlling messages (M = 3.71, SD = 1.18).

This doctor made me feel angry.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message (F (1,331) = 8.67, p = .003). The doctors in the high level controlling messages (M = 2.26, SD = 1.19) were rated as more anger producing than those in the low level controlling messages (M = 1.87, SD = 1.15). There was a significant interaction (F (1,331) = 4.11, p = .043). An independent sample t-test indicated there was a significant difference between the male doctor using the high level controlling message and all other conditions (t (337) = 3.04, p = .003). This effect can be seen in figure 2.
Figure 1: This figure shows a significant interaction between gender of doctor and level of controlling language.

This doctor has good personal manner.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message ($F(1,331) = 16.31$, $p < .001$). The doctors in the low level controlling messages ($M = 4.05$, $SD = 1.08$) were rated as having a better personal manner than those in the high level controlling messages ($M = 3.43$, $SD = 1.26$).

I would follow this doctor’s recommendations.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message ($F(1,331) = 5.38$, $p = .021$). Participants reported they were more likely to follow the doctor’s recommendation after listening to the low level controlling messages ($M = 4.39$, $SD = .76$) than the high level controlling message ($M = 4.14$, $SD = .78$).
This doctor is not supportive.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message ($F (1,331) = 14.57, p < .001$). The doctors in the low level controlling messages ($M = 1.95, SD = 1.06$) were rated as more supportive than those in the high level controlling messages ($M = 2.45, SD = 1.19$).

This doctor is focused on the patient.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message ($F (1,331) = 4.50, p = .035$). Doctors in the low level controlling messages ($M = 4.28, SD = .97$) were rated as more patient focused than those in the high level controlling messages ($M = 3.94, SD = 1.08$).

I would not want to see this doctor.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message ($F (1,331) = 23.56, p < .001$). Participants who listened to the low level controlling messages ($M = 2.00, SD = 1.17$) rated they would want to see the doctor more than participants who listened to the high level controlling messages ($M = 2.73, SD = 1.31$).

This doctor is empowering.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message ($F (1,331) = 5.35, p = .021$). Doctors in the low level controlling message ($M = 3.42, SD = 1.09$) were rated as more empowering than doctors in the high level controlling message ($M = 3.16, SD = 1.09$).
This doctor is helpful.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message (F (1,331) = 5.71, p = .017). Doctors in the low level controlling message (M = 4.33, SD = .85) were rated as more helpful than doctors in the high level controlling message (M = 4.02, SD = .93).

This doctor is rude.

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for gender of prescribing doctor (F (1,331) = 5.92, p = .015). Female doctors (M = 1.88, SD = 1.09) were rated less rude than male doctors (M = 2.21, SD = 1.31). There was also a main effect for level of controlling message (F (1,331) = 21.83, p < .001). The doctors in the low level controlling messages (M = 1.72, SD = .98) were rated less rude than those in the high level controlling messages (M = 2.38, SD = 1.34).

<table>
<thead>
<tr>
<th>Question</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>This was a very controlling message.</td>
<td>3.39</td>
<td>2.73</td>
</tr>
<tr>
<td>I would recommend this doctor to another person.</td>
<td>3.52</td>
<td>3.87</td>
</tr>
<tr>
<td>This doctor seemed appropriate.</td>
<td>3.71</td>
<td>4.23</td>
</tr>
<tr>
<td>This doctor made me feel angry.</td>
<td>2.26</td>
<td>1.87</td>
</tr>
<tr>
<td>This doctor has good personal manner.</td>
<td>3.43</td>
<td>4.05</td>
</tr>
<tr>
<td>I would follow this doctor’s recommendations.</td>
<td>4.14</td>
<td>4.39</td>
</tr>
<tr>
<td>This doctor is not supportive.</td>
<td>2.45</td>
<td>1.95</td>
</tr>
<tr>
<td>This doctor is focused on the</td>
<td>3.94</td>
<td>4.28</td>
</tr>
<tr>
<td>Patient Evaluation</td>
<td>Competence Factor</td>
<td>Goodwill/Caring Factor</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>I would not want to see this doctor.</td>
<td>2.73</td>
<td>0.00</td>
</tr>
<tr>
<td>This doctor is empowering.</td>
<td>3.16</td>
<td>3.42</td>
</tr>
<tr>
<td>This doctor is helpful.</td>
<td>4.02</td>
<td>4.33</td>
</tr>
<tr>
<td>This doctor is rude.</td>
<td>2.38</td>
<td>1.72</td>
</tr>
</tbody>
</table>

**Competence Factor**

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message (F (1,330) = 4.57, p = .033). Doctors in the low level controlling message (M = 36.17, SD = 6.21) were rated as being more competent than doctors in the high level controlling message (M = 34.38, SD = 6.26).

**Goodwill/Caring Factor**

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for gender of prescribing doctor (F (1,330) = 4.41, p = .036). Female doctors (M = 32.04, SD = 7.58) were rated as better able to communicate their concern for the patient than male doctors (M = 30.15, SD = 8.16). There was also a main effect for level of controlling message (F (1,330) = 12.42, p < .001). Doctors in low level controlling messages (M = 32.93, SD = 7.05) were rated as having more concern of patient well-being than doctors in high level controlling messages (M = 29.26, SD = 8.32).

**Trustworthiness Factor**

A 2 (gender of prescribing doctor) x 2 (level of controlling message) ANOVA saw a main effect for level of controlling message (F (1,330) = 4.17, p = .042). Doctors in the low level
controlling messages (M = 34.92, SD = 6.14) were rated more trustworthy than doctors in the high level controlling messages (M = 32.96, SD = 6.63).

**Patient-Provider Orientation Scale**

A 2 (gender of prescribing doctor) x 2 (level of controlling message) x 2 (gender of participant) ANOVA saw a main effect for gender of participant (F (2,330) = 4.96, p = .008). Female participants (M = 3.83, SD = .61) prefer the patient-centeredness approach more than male participants (M = 3.60, SD = .58).

**Sharing Factor**

A 2 (gender of prescribing doctor) x 2 (level of controlling message) x 2 (gender of participant) ANOVA saw a main effect for gender of participant (F (2,329) = 3.27, p = .039). Female participants (M = 3.67, SD = .72) are more concerned with their doctors sharing information and the power of medical decisions with them than male participants (M = 3.45, SD = .70).

**Caring Factor**

A 2 (gender of prescribing doctor) x 2 (level of controlling message) x 2 (gender of participant) ANOVA saw a main effect for gender of participant (F (2,330) = 6.24, p = .002). Female participants (M = 3.96, SD = .60) are more concerned that doctors care about their emotional wellbeing and the doctor-patient relationship than male participants (M = 3.71, SD = .61).
CHAPTER FOUR: DISCUSSION

Disagreements in this study were defined as a time when a doctor made the participant have some of the questioned negative emotions or the participant would not follow the doctor’s recommendation, see the doctor again, or recommend the doctor. The hypothesis that the participants would have more disagreements with the doctor when a high level controlling message is present was supported through the reports that participants were less likely to follow the doctor’s recommendation in the high level of controlling language. Participants also reported they felt angrier and they would not want to see or recommend this doctor. They described the doctor who spoke with high levels of controlling language as more unsupportive, inappropriate, rude, and unhelpful than the doctor who used a lower level of controlling language.

Although participants reported they were less likely to follow the doctor’s recommendation in the high level controlling message than in the low level controlling message, they still agreed that they would follow the recommendation. This further confirms the previous finding that participants still report they will follow doctor’s recommendations even when the doctor makes them feel angry (Averbeck, 2015).

The hypothesis that participants would have more disagreements with a male doctor was supported by the report that male doctors were considered more rude than female doctors. Male doctors were also rated lower on the goodwill/ caring factor, suggesting that the participant was not able to recognize empathy from the male doctor as easily as they could from the female doctor. As mentioned in previous research, it is critical that patients are able to understand the empathy a doctor must show to let the patient know the doctor cares about them (Hariharan et al., 2015).
Perception of empathy may not be the only reason male doctors were perceived more negatively than female doctors. The manipulation of the present study is small because the male and female doctors used identical language. Yet, the male doctor being perceived differently at all suggests a preconception of male doctors. Previous research has shown that people stereotype female doctors as having more accurate diagnoses and a better personal manner than male doctors (Shah & Odgen, 2006). It seems as though male doctors are immediately at a disadvantage by being perceived as less than their female counterparts.

A third explanation for the perceived difference between the male and female doctor is that participants are not stereotyping male doctors, but instead stereotyping female doctors. Research has shown that when a participant is presented with a male and female name and asked who is the doctor and who is the nurse, people assume the doctor is the man. This is well documented as the base rate principle, which is the idea that facts should be included in decision making processes, even if they encourage a stereotype. For example, when Cao and Banaji (2016) released their study, there were more practicing male doctors than female doctors. In this case, even though a participant guessing that the man is the doctor is a stereotype, it also matches the facts, so it is an acceptable prediction that is statistically more likely to be true. This is just one example of how people can make assumptions about other people and situations (Cao & Banaji, 2016). Participants in this study may not have made all of their decisions only based on their assumptions of doctors. Predicting the women as a nurse may have more to do with their assumptions of nurses being more caring than doctors (Mark, 2013). If people stereotype women as nurses, they really may be stereotyping a woman as caring. That assumption may be
generalized to all female voices, even when a participant knows the fact that the woman is a doctor.

The hypothesis that participants would have more disagreements with male doctors when a high level controlling message is present was supported since male doctors who spoke with high level controlling language made participants feel more angry than female doctors who spoke with high level controlling language. This again suggests that male doctors are being perceived more harshly than female doctors. It is imperative that male doctors across the world use this information to improve their relationships. Male doctors and student doctors must understand the bias they may face from patients and learn how to communicate effectively to counteract the prejudice.

In this study, most participants scored moderately on the Patient-Practitioner Orientation Scale, yet they were significantly more bothered by the high level controlling language than the low level. This may imply a shift where lower levels of controlling language are required even by patients who believe in the disease centered model.

It was also found that female participants want more autonomy in the doctor-patient relationship. Female participants scored higher on the Patient-Practitioner Orientation Scale, and both the sharing and caring factors, than male participants. Higher scores on this scale refer to the patient-centered belief that the doctor must treat the patient as a whole instead of focusing on the disease. Scoring higher on the sharing factor refers to the belief that the doctor should share all medical information with the patient and share the final power to make all decisions. Scoring higher on the caring factor refers to the belief that doctors should care about the doctor-patient relationship and about the patient instead of only the disease (Krupat et al., 2000).
It is important to note that while many of the differences found in this study are not large, they are significant. If a doctor in practice continues to say or do things that make their patient feel that they do not care about them these small disagreements could quickly add up. Since previous research has shown that people are willing to doctor shop, doctors only have a limited number of visits to form a strong bond so that when a disagreement does take place the patient can view it as a small, isolated issue. It is also important for patients to find doctors that match their beliefs. Averbeck’s (2015) research has shown that when a patient believes in the disease centered approach of medicine, controlling language from their doctor does not bother them. Genuine issues only seem to arise if a patient and their doctor have beliefs so different they cannot compromise. In order for patients to find doctors who match their beliefs, doctors must admit their own views on shared control in the doctor-patient relationship. Transparent honesty between doctors and their patients can allow for a successful relationship.

One limitation of this research is that it was conducted with college students who have had variable levels of doctor-patient interactions. These participants are so young that the doctor-patient beliefs they hold may not be fully concreted and may change in time or in different situations. This study also cannot account for how patients would interact with a doctor they have had for a period of time. It may be possible that a good relationship formed between doctors and their patients can buffer any minor disagreements and allow for more compromise by both parties.

Future research should see how different age groups of patients perceive various levels of controlling language from their doctor. This could determine if older generations view their doctors as their main source of information, with possible supplementation from the internet or
other sources. It is also important to see how patients would perceive various levels of controlling language from doctors of different ages. Young, newly graduated doctors who speak with controlling language may not be perceived as well by patients as older, more established doctors.

Doctors in practice must use this research, and others like it, to see the value of continuing to work on their communication skills and individual relationships with each patient so they can help them in the most effective way. This study also encourages male doctors to understand and work to amend the disadvantages they may face while they practice.
APPENDIX A: IRB APPROVAL FORM
Approval of Exempt Human Research

From: UCF Institutional Review Board #1
FWA0000351, IRB00001138

To: Valerie K Sims and Co-PI Kayla LaDez

Date: March 21, 2017

Dear Researcher:

On 03/21/2017, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
Project Title: The Effect of Controlling Messages on Doctor-Patient Communication
Investigator: Valerie K Sims
IRB Number: SBE-16-12739
Funding Agency: Grant Title: Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Renea C Carver on 03/21/2017 08:07:45 AM EDT

IRB Coordinator
APPENDIX B: EXPLANATION OF RESEARCH
EXPLANATION OF RESEARCH

Title of Project: The Effect of Controlling Messages on Doctor-Patient Communication

Principal Investigator: Valerie Sims, Ph.D.

Other Investigators: Kayla LaDez

You are being invited to take part in a research study. Whether you take part is up to you.

The purpose of this study is to better understand the effects of doctors, of different genders, using controlling language toward patients of different ages. This study also looks to determine if college age students believe in the same model of doctor-patient relationships as their parents. It is understood that female doctors are believed to be better trained than their male counterparts, and therefore sometimes have less disagreements with their patients, since the doctor side of doctor-patient relationships has been well studied (Shah & Odgen 2006, Schieber et al. 2014). Unfortunately, since patients have many individual and sex differences they sometimes are overlooked in research.

This research looks to see both how controlling language is perceived depending on the sex of the doctor, and how the age of the participant effects the participant’s perceptions of the doctor. You will be asked to listen to a version of a conversation between a doctor and a patient. Then you will be asked to answer questions based on your opinion of the doctor and how you would respond in the patient’s situation. The next set of questions will be about how you believe doctors should communicate with their patients. Finally, you will be asked to answer demographic information.

At the end of the study you will have the opportunity to send an email containing a link and an access code to one of your parents for additional SONA credit.

We expect that you will be in this research study for 10-20 minutes.

You must be 18 years of age or older to take part in this research study.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints talk to Kayla LaDez at kayaladez@knights.ucf.edu or Dr. Valerie Sims, Faculty Supervisor UCF Psychology Department at Valore.sims@ucf.edu

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.
AUDIO MESSAGE

A patient visited a general physician for a yearly check up. After the usual exam and blood work, the physician called the patient and left a voicemail that said:

High Controlling Language Message

“Exercise and physical activity are good for your mind and body. You should exercise and participate in team sports regularly to lower the buildup of plaque in arteries caused by high cholesterol. Sitting only allows you to burn 90 calories an hour. Because you can burn up to 440 calories an hour by exercising, you should do so to manage a more healthy weight—or simply just to lose weight. Also, you should exercise to keep your bones and muscles strong, and to help preserve bone mass and bone density.

You must exercise to develop greater lung capacity and increase oxygen intake. There are other ways to increase physical activity. For instance, you should join team sports such as basketball or softball, and you must start walking whenever you can, rather than always driving. You also should to try taking the stairs more often instead of the elevator. Exercising is easy to do, so you really should add more physical activity to your life. Besides, there is an added bonus that makes exercise worthwhile: You need to exercise to fight depression and stimulate the production of endorphins which can then produce feelings of well-being.

You should follow my recommendation as I am a very well trained physician. Have a good day.”

Low Controlling Language Message

“Exercise and physical activity are good for your mind and body. Exercising and participating in team sports regularly can help lower the buildup of plaque in arteries caused by high cholesterol. Sitting only allows you to burn 90 calories an hour. Because you can burn up to 440 calories an hour by exercising, you may want to consider more physical activity as a way of managing a more healthy weight—or simply as a way of losing weight. Exercise can also keep your bones and muscles strong, and help preserve bone mass and bone density.

You can also exercise to develop greater lung capacity and increase oxygen intake. Joining in team sports, such as basketball or softball, is a good way to increase physical activity. Besides exercising, you might want to start walking whenever you can, rather than always driving. You might also think about taking
the stairs more often instead of the elevator. Exercising isn’t hard to do. You can easily add physical activity to your life, plus there is an added bonus: Exercise fights depression and stimulates the production of endorphins, which can then produce feelings of well-being.

Do you have any questions? I would like to further discuss your options so we can make the best decision together. Give me a call back at your earliest convenience. Have a good day.”
## Patient-Practitioner Orientation Scale

The statements below refer to beliefs that people might have concerning doctors, patients, and medical care. Read each item and then blacken in the circle to indicate how much you agree or disagree with each.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The doctor is the one who should decide what gets talked about during a visit.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2. Although healthcare is less personal these days, this is a small price to pay for medical advances.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3. The most important part of the standard medical visit is the physical exam.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>4. It is often best for patients if they do not have a full explanation of their medical condition.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>5. Patients should rely on their doctors' knowledge and not try to find out about their conditions on their own.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6. When doctors ask a lot of questions about a patient's background, they are prying too much into personal matters.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>7. If doctors are truly good at diagnosis and treatment, the way they relate to patients is not that important.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>8. Many patients continue asking questions even though they are not learning anything new.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>9. Patients should be treated as if they were partners with the doctor, equal in power and status.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>10. Patients generally want reassurance rather than information about their health.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>11. If a doctor's primary tools are being open and warm, the doctor will not have a lot of success.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>12. When patients disagree with their doctor, this is a sign that the doctor does not have the patient's respect and trust.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>13. A treatment plan cannot succeed if it is in conflict with a patient's lifestyle or values.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>14. Most patients want to get in and out of the doctor's office as quickly as possible.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>15. The patient must always be aware that the doctor is in charge</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>16. It is not that important to know a patient's culture and background in order to treat the person's illness.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>17. Humor is a major ingredient in the doctor's treatment of the patient.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>18. When patients look up medical information on their own, this usually confuses more than it helps.</td>
<td>O</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
APPENDIX E: PERCEIVED CREDIBILITY SCALE
18 Q perceived credibility McCroskey & Teven 1999
Instructions: Please indicate your impression of the doctor in the audio you listened to by choosing the appropriate number between the pairs of adjectives shown. The closer the number is to an adjective, the more certain you are of your evaluation.

<table>
<thead>
<tr>
<th>Adjective</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untrained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inexpert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incompetent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bright</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cares about me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has my interests at heart</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-centered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Concerned with me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insensitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not understanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honest</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Untrustworthy</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Honorable</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Moral</td>
<td></td>
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<td></td>
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<tr>
<td>Unethical</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Phony</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Unintelligent
Trained
Expert
Uninformed
Competent
Stupid
Doesn’t care about me
Doesn’t have my interests at heart
Not self-centered
Unconcerned with me
Sensitive
Understanding
Dishonest
Trustworthy
Dishonorable
Immoral
Ethical
Genuine
APPENDIX F: QUESTIONNAIRE AND DEMOGRAPHICS
Likert Questions

Instructions: Please rate how much you personally agree or disagree with these statements based on the audio you just listened to.

- This was a very controlling message.
- I would recommend this doctor to another person.
- I would not want to see this doctor.
- This doctor seemed inappropriate.
- This doctor made me feel angry.
- Choose strongly agree
- This doctor has good personal manor.
- This doctor has good technical skills.
- This doctor explained the recommendation clearly.
- This doctor is not supportive.
- This doctor is empowering.
- This doctor is focused on the patient.
- This doctor is helpful.
- This doctor is rude.
- I would follow this doctor’s recommendations.

Demographics

- Do you have a regular physician? (Yes or No)
  - What is the gender of your doctor? (Male or Female)
  - How old is he/she?
    - What kind of degree does he/she hold? (M.D. or D.O.)
- How frequently have you visited a doctor in the last year?
- Is your mother or father a doctor? (Yes or No)
- What is your highest level of education completed? (High school diploma, Some college, Associates degree, Bachelors degree, Masters degree, Doctorate degree)
- What is your age?
- Please select what best describes your ethnicity. (White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, Other)
- Are you currently a University of Central Florida student? (Yes or No)
REFERENCES


Mark, S. (2013). Doctors and Nurses Through the Patient’s Eyes. *Academic Medicine, 88*, 1614. doi: 10.1097/ACM.0b013e3182a7fae7


Retrieved from https://owl.english.purdue.edu/owl/resource/560/10/


