EFFECTS OF PARTICIPANT DISCLOSURE TENDENCIES AND PHYSICIAN VERBAL BEHAVIOR ON PARTICIPANT WILLINGNESS TO DISCLOSE FACTS:

AN ANALOGUE STUDY

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by

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The current study attempts to explain some of the factors related to patient self-disclosure in the medical encounter, including gender dynamics, patient overall concealment tendency, and physician verbal behavior. Participants were asked to put themselves in the place of patients while listening to audio files of three staged doctor visits (no problem scenario, fatigue scenario, and diabetes scenario). The design of the study is a 2 (patient gender) x 2 (physician gender) x 3 (physician statement: symptom focused question, feeling focused question, or self-disclosure) factorial using perceived privacy and importance of facts and self-disclosure tendency as covariates. Participants’ perceptions of the physician were measured, as well as their willingness to disclose specific information to this physician.

Results indicated that the experimental manipulation was indeed salient to the participants, and the proposed covariates were statistically useful. Initial analysis suggested that the no problem scenario was conceptually different from the other two scenarios. In the fatigue and diabetes scenarios, the feeling question resulted in greater
likelihood of disclosure than did the symptom question. The self-disclosure statement resulted in the higher attractiveness ratings than did the symptom question in all three scenarios. Additional findings relating to gender were nearing critical significance levels. The findings did not support reciprocity theory in the medical encounter. There was support for the use of patient-centered interviewing methods to increase patient likelihood of disclosure. The strengths and limitations of analogue studies are discussed, as are recommendations for future studies, including studies with other cultural groups and patients with chronic or serious medical conditions.
For my family.
Without your love, encouragement, and support,
I would never have finished.
Thank you, Mom and Dad,
Grandma and Papa, Jan and Joe.
And to Sutha, thank you for never letting me forget
the many reasons I could do this.
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INTRODUCTION

The issue of patient disclosure is critical in the context of current medical practice because physicians have two primary means of obtaining data from their patients: objective tests (e.g., laboratory tests of blood or urine) and self-report. Much of the information relevant to diagnosis and treatment, such as family history, medical history, lifestyle behaviors, barriers to compliance, or subjective experience of symptoms, is primarily available from patients’ self-reports (or the reports of significant others in patients’ lives). With such a powerful opportunity to obtain (or overlook) information from patients, physicians should be interested in the factors affecting patients’ full and honest self-disclosure of information relevant to their treatment. The current study contributes to the literature on physician-patient communication by examining the effects of three elements of the physician-patient interaction: gender of physician and patient, patients’ tendency to conceal or disclose information, and physician verbal behavior. These three elements are expected to affect patient self-disclosure and opinions of the physician. Additionally, the experimental design of this study, which measures participants’ reactions to an analogue encounter, allows for empirical testing of theoretical relationships that have been suggested from studies which simply observed naturally-occurring interactions between physicians and patients.

The three elements of interest in this study (gender effects, physician verbal behavior, and patient concealment tendency) have been studied separately and often
through correlational designs that observe, but do not manipulate, naturally occurring interactions. The current study is the first to combine them in an experimental design.

First, correlational research examining the interaction between physician and patient gender has resulted in few definitive conclusions about which relationships (i.e., gender match or mismatch) and which gender roles (e.g., stereotypically feminine or masculine communication style) most affect the communication in the medical encounter. The experimental design of this study will allow participants’ responses to be compared as a function of physician gender as well as physician verbal behavior: two elements of the physician gender effect that are difficult to analyze separately in the observation of naturally-occurring interactions.

Second, previous research regarding physician-patient communication has indicated that the medical encounter is a complex situation in which both patient and physician behaviors affect the ultimate outcome. Research has traditionally focused on the behavior of physicians, but because of the correlational nature of so many studies, physician statements have not been systematically varied in the way they will be in this study.

Finally, communication researchers have long been interested in identifying which individuals might consistently conceal or disclose personal information, particularly information that is perceived as negative or harmful. Measuring these dispositional factors may give a better picture of whether these tendencies influence communication in the medical encounter or if the medical encounter is a special case in which these tendencies are suppressed in order to achieve specific communication goals. The following review will examine what researchers currently believe about the effects of
gender, physician verbal behavior, and dispositional concealment tendency on the physician-patient relationship.

Gender

Communication research indicates that the gender (or genders) of the communication partners is an important factor in how much information they share with one another. For example, a meta-analysis of 205 studies with 23,702 total participants by Dindia and Allen (1992) indicated that women disclose more than men, but the effect size was small ($d = .18$). The effect of sex of discloser on self-disclosure was moderated by the sex of the target of the disclosure. Specifically, all female dyads exhibited the most disclosure, all male dyads and women disclosing to men exhibited an intermediate amount of disclosure, and men disclosing to women exhibited the least disclosure. These findings underscore how important it is to study not just gender of physician or gender of patient, but also the ways in which the different combinations of gender may interact. In the following paragraphs, findings from studies of the medical encounter will be examined with regard to gender differences.

Patient gender. Roter and Hall (1992) point out that patient gender is more likely to have been empirically studied than physician gender, because medicine is a traditionally male field that is becoming more reflective of population demographics. Thus, researchers have historically had more access to male physicians than female physicians, whereas they have always had access to roughly equal numbers of male and female patients. In studies of patient behavior, research indicates that men and women behave differently as patients. For example, female patients give more responses to physician questions (Hall et al., 1994), and they are more likely to express their emotions
in a medical encounter (Stewart, 1983). Male patients, on the other hand, are more likely to give the physician facts (Stewart, 1983). In addition to their own behavior, male and female patients are treated differently, which may affect their communication as well. Waitzkin (1985) discovered that female patients were given more information than male patients. They also reported that physicians reacted to questions from female patients by matching their responses with regard to the level of technical sophistication of the question. Hall and colleagues reported that, although male patients are liked significantly more than female patients, male patients are provided with less information from physicians than is provided to female patients (Hall et al., 1993).

*Physician gender.* Multiple studies analyzing the communication of physicians indicates that female physicians conduct longer medical visits with more verbal communication than male physicians do (e.g., Roter, Lipkin, & Korsgaard, 1991). A meta-analysis by Hall and Roter (2002) indicated that total talk time was greater for female physicians, compared to male physicians, in general medical visits. In addition, when total talk was divided into biomedical information or psychosocial information, both types of talk were greater for female physicians than male physicians. The difference in quantity of information provided to female physicians may be a result of demonstrated differences in male and female physicians’ communication behaviors. For example, female physicians ask significantly more questions in their visits than do male physicians (Roter, Hall, & Aoki, 2002). Also, female physicians display more affective behavior than male physicians, while male physicians displayed more instrumental behavior (Meeuwesen, Bensing, & van den Brink-Muinen, 2002). Roter and Hall (1998) suggested that the differences between male and female physicians in communication
might reflect that women are socialized to be more collaborative, and that they carry this collaborative style into their work as physicians.

**Interaction effects.** Studies of the relationship between physician gender and patient gender roughly parallel the general research on gender matching or mismatched dyads. In an observational study of medical encounters in a primary care setting, the analysis of gender interactions resulted in several interesting effects related to disclosure (Hall, Irish, Roter, Ehrlich, & Miller, 1994). First, male physicians in visits with male patients spoke a greater proportion of the time than their patients, whereas female physicians in visits with female patients spoke in equal proportion to their patients. The authors attributed this difference to two significant differences in the female-female situation. First, female patients delivered more medical, task-related, talk to female physicians. Second, the quantity of physician positive statements, nodding, and back-channel responses (e.g., uh-huh, yeah) in the female-female situation was greater than the amounts in the other combinations of male and female. Thus, they concluded that female physicians, compared to male physicians, were more successful in eliciting medical information from female patients.

In summary, research on both general communication and medical communication highlights how important it is to study not just gender of physician or gender of patient alone, but also the ways in which the different combinations of gender may interact to facilitate or inhibit disclosure. The examination of gender interactions (e.g., female patients delivering more task related information to female physicians) adds nuance to the concept of self-concealment by explaining some conditions under which
people might be more or less likely to self-conceal information that may be medically relevant.

Physician Verbal Behavior

Another important factor in patient self-disclosure is the behavior of the physician. The amount and quality of information given by the patient is to some extent related to the way the physician attempts to obtain it. The current study will explore how specific types of verbal statements made by the physician in the course of an interview might be more or less efficient in eliciting disclosure from patients. Multiple studies (e.g., Duggan & Parrott, 2001; Aruguete & Roberts, 2003) have indicated that physicians’ nonverbal behaviors are associated with patient self-disclosure, as well as patient satisfaction, trust, recall of information, likelihood of recommendation, and intent to comply with medical advice. However, there is not a great deal of information regarding the effects of physicians’ specific information gathering statements on their interactions with patients. One research study (Roberts & Aruguete, 2000) separated out verbal behaviors, such as using open-ended questions, display of concern, and greeting and saying goodbye, for analysis. These behaviors were associated with higher patient self-disclosure, as well as trust, satisfaction, and likelihood of recommending the physician. The review of research findings in this area will examine the qualities of different verbal strategies (e.g., questions about symptoms) and how these verbal strategies might emanate from an overall physician relationship style (e.g., questions about feelings related to a symptom).

Task vs. affective behavior. Some theorists categorize physicians’ strategic verbal behaviors as either task or affective. Physicians routinely discuss task-related or
instrumental information such as diagnoses, treatment plans, and risks associated with treatment with their patients. However, other relationship- or emotion-focused verbal behaviors are also important to the physician-patient interaction. Ben-Sira (1980) made this distinction between affective and instrumental components of communication in his social interaction theory. Social interaction theory states that patients seek the treatment of a physician for two reasons: to be physically treated for their illness (addressed by task behaviors), and to have their anxiety about their illness reduced (addressed by affective behaviors). He hypothesized that patient education level would be associated with the evaluation of physicians because, compared to highly educated patients, less educated patients would be less likely to understand the complexities of their medical treatment and would evaluate the physician only on his or her affective behaviors. That is, because they are less equipped to evaluate the quality of instrumental behaviors, they will evaluate a physician based upon the more easily understood affective behaviors.

However, Ben-Sira’s hypothesis that education level would affect the evaluation of physicians was not supported by a later research study because there was no increased response to task-related behaviors among more highly educated participants. In their study of social interaction theory (Roberts & Aruguete, 2000), verbal behaviors, such as using open-ended questions, display of concern, and greeting and saying goodbye, were associated with higher patient self-disclosure and trust, satisfaction, and likelihood of recommending the physician. The results of this study seem to indicate that patients, regardless of education level, evaluate their physicians based more upon their ability to alleviate anxiety than on their ability to treat illness. This finding is consistent with previous analysis (e.g., Roter, Hall, & Katz, 1987) that clinical expertise only accounts
for a small amount of the variance in patient disclosure. Roberts and Aruguete (2000) suggested that patients may evaluate physicians based more upon affective behaviors because they are more likely to recognize them than they are to recognize task behaviors.

*Physician Relationship Style.* Another way in which information-gathering statements may be categorized is their indication of the physician’s style of communication. Much of the research on physician communication has focused on identifying theoretical relationship “styles” that consist of physicians’ nonverbal and verbal behaviors, as well as their attitudes about power and control in the medical encounter (Williams et al., 1998). Some of the earliest models of physician-patient relationship were proposed by Szasz and Hollender (1956/1987), including Activity-Passivity, Guidance-Cooperation, and Mutual Participation. These three styles are distinguished mainly by the attribution of control in the relationship, which falls on a continuum from complete physician control (Activity-Passivity) to equal control (Mutual Participation). In addition to the Szasz and Hollender model, a number of different physician style dichotomies have since been suggested, including controlling versus affiliative (Buller & Buller, 1987), authoritarian versus egalitarian (Anderson & Zimmerman, 1993), directing versus sharing (Savage & Armstrong, 1990), and paternalism versus cooperation (Roter & Hall, 1992). The most widely used terminology by far is the disease- (or physician-) centered versus patient-centered dichotomy (e.g., Smith et al., 2000). However, when reviewing the descriptions of each of the dichotomies above, it becomes clear that each is using different terminology to describe a similar concept or behavior. A patient-centered style is one in which physician attitudes and behaviors originate in the patient’s needs and agenda, with a goal of understanding
his or her phenomenological experience of illness. Physician-centered styles reflect a focus on diagnosis rather than the person and place control in the hands of the physician.

Multiple reviews have indicated that patient-centered techniques are associated with greater patient satisfaction and disclosure, and improved health outcomes (see Ong et al., 1995, 2000; Smith et al., 2000; Williams et al., 1998). Because the Patient-Centered interview begins with open ended questioning and emotion-eliciting skills, more comprehensive data is gathered from the patient than is gathered in other interviewing techniques that are physician-focused or problem-focused (Smith, et al., 2000). Interestingly, these findings are consistent with the work of client-centered theorist Carl Rogers (see Rogers, 1951). Client-centered counseling techniques posit that genuineness, empathy, and concern for the client’s point of view are necessary conditions for development of an environment that fosters effective working relationships.

*Self-disclosure of professionals.* In addition to asking questions to obtain information from patients, physicians may choose to use other strategic means of communication to increase the amount and quality of information they receive. One of these strategies could be strategic self-disclosure. Because no published studies to date have examined the specific effects of physician self-disclosure on patient self-disclosure or patient perceptions, a brief account of related research findings will be presented here. First, some findings associated with self-disclosure in general (across different social relationships) will be examined, and then those findings specifically pertaining to a related field, counselor self-disclosure in the psychotherapeutic relationship, will be outlined. Whether or not these findings from psychotherapy literature will generalize to the medical encounter will be examined by the proposed study.
First, self-disclosure is generally understood to be reciprocal. That is, self-disclosure from one relationship partner tends to facilitate self-disclosure from the other relationship partner, either immediately or eventually and without regard to the duration of the relationship (Dindia, 2000). Multiple theorists (e.g., Jourard, 1971; Altman & Taylor, 1973) express some variant of the idea that one person’s self-disclosure facilitates another’s self-disclosure. A meta-analysis by Dindia and Allen (1992) concluded that self-disclosure is generally reciprocal, with a moderately large to very large effect size for reciprocity. Interestingly, this reciprocity effect, which was found for both intimates and strangers, represented a similar amount of self-disclosure exchanged on a conversation-wide level, not on a statement-for-statement basis.

Reciprocity is such an important norm of communication behavior in relationships that communication theorists, like Altman and Taylor (1973) have used it as a central aspect of explaining how relationships develop over time. Social penetration theory predicts that information exchange proceeds from superficial to more intimate as a relationship develops (Altman & Taylor, 1973). They conceptualized personality as an “onion-skin” structure. Information in central layers is more private, more unique to the individual, and less outwardly apparent to others than information in outer layers, which consists of superficial information such as biographical information (e.g., age, sex) or other qualities immediately visible to others (e.g., dress, attractiveness). The intermediate layers consist of information like attitudes and opinions. The most central layers are the core properties of the person, including his or her fears, self-concept, and most basic values. The theory states that information exchange is generally reciprocal, both in topic and depth of intimacy of information.
Individuals are expected to react positively to others’ self-disclosure; and, in turn, people are willing to disclose personal information about themselves to these others. Little by little, in a spiraling fashion, the bonds of intimacy are expected to build as the individuals take turns exchanging increasingly more intimate information about themselves to one another. (Derlega, Winstead, Wong, & Greenspan, 1987, p. 173)

Social penetration processes were theorized to be affected by individual personal characteristics (personality traits and demographic factors), dyadic processes (rewards and costs in the relationship), and situational factors (social roles and environmental elements). Altman and Taylor note that the penetration process might be accelerated or inhibited by certain combinations of these factors. For example, in a work-related situation, with higher formality and socially prescribed roles, penetration processes are expected to slow, but they are still predicted to increase in intimacy over time. The intimacy of this relationship might be slow and might yield an overall low depth of information compared to, for example, a romantic relationship, but the work relationship is still expected to increase in intimacy over time. In fact, Altman and Taylor note that the intimacy of communication in a very role bound relationship, such as the doctor-patient relationship where reciprocity is less normative, may be affected more by these contextual factors than in a relationship that is more egalitarian. There is, however, a good deal of research about another professional relationship, the therapist-client relationship, that indicates reciprocity is not only present, but that professionals use it as a strategic communication method.

Based on a number of laboratory studies, there is evidence for reciprocal disclosure in the psychotherapy relationship (Bundza & Simonson, 1973; Mann & Murphy, 1975; Nilsson, Strassberg, & Bannon, 1979). These findings indicate that self-disclosure by a professional (such as a therapist or physician) may increase self-
disclosure in the client or patient. Research and theory on therapist self-disclosure has suggested that professionals often strategically self-disclose in order to enhance clients’ perceptions of similarity (Mathews, 1988; Simon, 1988; Simone, McCarthy, & Skay, 1998) and to develop more egalitarian relationships (Brown, 1991; Enns, 1992; Simi & Mahalik, 1997). It appears that self-disclosure could also be used as a strategy for increasing the self-disclosure of a client or patient, suggesting that a relationship may be found between the self-disclosure of physicians their patients’ likelihood of disclosure.

In addition to increasing client self-disclosure, psychotherapy research indicates that self-disclosure from the therapist may increase the client’s liking of the therapist. Klein and Friedlander (1987) found that disclosures that expressed similarity enhanced client perceptions of therapist regard. In a meta-analysis, Collins and Miller (1994) identified three significant relationships between self-disclosure and liking from general self-disclosure studies. Two of these effects in their meta-analysis were that people who engage in disclosure of intimate information tend to be liked more than those who disclose less and that people like those to whom they have disclosed. The first effect may predict that physicians who self-disclose might be liked more than non-disclosing physicians. The second effect may predict that those patients who choose to self-disclose might report more liking of physicians compared to those who choose not to disclose.

The most significant of the three effects discovered by Collins and Miller (1994) was the finding that people disclose more to people they like. This effect implies that positive perceptions of the physician might predict increased disclosure from patients. In a finding that supports this prediction, Lundeen and Schuldt (1992) found that client willingness to self-disclosure was not directly predicted by therapist self-disclosure,
instead, the “therapist-disclosure-client-willingness-to-disclose” relationship was mediated by client ratings of therapist attractiveness. Thus, perceptions of a physician may mediate the relationship between the physician’s self-disclosure and a patient’s likelihood of disclosure.

Liking does not seem to be the only perception of a professional that can be affected by his or her self-disclosure. Multiple studies indicate that self-disclosure from therapists can have complex effects on clients’ perceptions of the therapists. Laboratory studies provide strong evidence that therapist self-disclosure can increase clients’ (or participant “clients’”) perceptions of therapist attractiveness (Lundeen & Schuldt, 1989; Merluzzi, Banikotes, & Missbach, 1978; Merluzzi & Merluzzi, 1981; Peca-Baker & Friedlander, 1987; VandCreek & Angstadt, 1985). To a lesser extent, studies have suggested that self-disclosure enhances client perceptions of therapist trustworthiness (Lundeen & Schuldt, 1989; McCarthy, 1982; VandeCreek & Angstadt, 1985) and expertness (McCarthy, 1982). In fact, a number of studies have indicated a trade-off between increased attractiveness and decreased trustworthiness and/or expertness in therapists who self-disclose (Curtis, 1981; Goodyear & Shumate, 1996; Merluzzi et al., 1978; Merluzzi & Merluzzi, 1981; Simonson & Bahr, 1974).

In addition to the effects of the presence of self-disclosure, Collins and Miller also report findings that suggest that the timing and intimacy of the disclosure may be important as well. That is, too intimate disclosures delivered too soon in a relationship may result in negative reactions (e.g., Jones & Gordon, 1972). However, several other studies have indicated that a moderate amount of appropriate self-disclosures even in an initial encounter enhanced return rates and counselor attractiveness ratings (Giannandrea
& Murphy, 1973), minimized negative impressions (Cash & Salzbach, 1978), and resulted in ratings of greater empathy, warmth, and congruence (Mann & Murphy, 1975). Thus, evidence already exists that self-disclosures in an initial interaction may have positive relationship effects.

Patient Dispositional Disclosure

Patient dispositional characteristics might facilitate or interfere with the self-disclosure of relevant information in a medical encounter. Some researchers (Kahn & Hessling, 2001; Larson & Chastain, 1990; Miller, Berg, & Archer, 1983) have hypothesized that a person’s overall tendency to conceal or disclose affects all interactions to some degree, which would include his or her interactions with physicians. Larson and Chastain (1990) defined self-concealment as the “predisposition to actively conceal from others personal information that one perceives as distressing or negative” (p. 440). They argued that the tendency to self-conceal negative thoughts, feelings, actions, or events was distinct from self-disclosure, defined as the act of revealing any personal information to others.

In order to test their hypothesis, they compared two scales, their Self-Concealment Scale (SCS) and the Self-Disclosure Index (SDI; Miller et al., 1983), using factor analysis. A two factor solution (self-concealment and self-disclosure) was found to be superior to a one factor solution. Items from the SCS and SDI each loaded onto a separate factor, and these factors were modestly correlated at $r = -.27$, $p < .0001$. In further analysis, self-concealment (as measured by the SCS) was significantly and positively related to participants’ self-reported physical symptoms, depression, and anxiety, but there was no significant relationship between participants’ self-disclosure (as
measured by the SDI) and these three health outcomes. The researchers concluded, based upon their statistical analysis, “Although related to self-disclosure, the SCS represents a new construct that is separate and distinct from self-disclosure” (Larson & Chastain, 1990, p. 447). Their results suggest that the understanding of active concealment of negative personal information contributes uniquely to the understanding of communication. If these theorists are correct that self-concealment is stable across different types of interactions, then the tendency to self-conceal is likely to show up in physician-patient communication. Specifically, patients who are high in self-concealment may be less likely to disclose negative personal information to their doctor, regardless of other factors, such as their doctor’s behavior.

Alternatively, research suggests that self-concealment may be a tendency that can be influenced by elements of the interaction between doctor and patient. The research findings of Miller and colleagues (1983) indicate that self-concealment may be prevented in interactions with “openers,” that is, persons who elicit intimate disclosures from others. To the extent that physicians possess opener qualities, they may facilitate self-disclosure in their patients. Miller et al. developed the Opener Scale to discover those participants who might have facility in eliciting self-disclosure from others. There were three categories of items in the Opener Scale: perceived reactions of others, interest in listening to others, and interpersonal skill efficacy. Undergraduate women who were classified as high or low disclosers (based on SDI scores) were paired with high or low openers (based on Opener Scale scores). In an interview, high disclosers, those with high SDI scores, were equally disclosing to high and low opener partners. Low disclosers, on the other hand, were more disclosing to only high openers. This interaction of
dispositional tendencies and facilitation skills suggests that self-disclosure as a trait may be useful in explaining some variance in concealment of negative information by medical patients. For high discloser patients, it is likely that physician use of opener skills would have no additional effect in facilitating their disclosure, but for low discloser patients, the behavior of the physician may be instrumental in determining whether or not they might choose to conceal personal information.

In summary, one would assume that a trait such as self-concealment would not just affect one’s amount of self-disclosure with strangers, friends, or family members, but also with one’s physician. The trait of self-concealment of negative information should be of great interest to health care professionals and researchers because some of the information that physicians need in order to treat patients effectively may be negative. For example, a patient who is noncompliant with prescription drug use may be reluctant to admit his or her maladaptive, or even shameful or embarrassing behavior to his or her physician; however, these patterns of prescription use are extremely important to the treatment of his or her medical condition. The research studies above explored the use of concealment as a communication strategy, but failed to explain why a person might conceal important, if negative, information from his or her physician. The current study will contribute to the understanding of physician-patient communication by incorporating the concept of dispositional disclosure with situational disclosure in the medical encounter. This study introduces experimental control into the self-disclosure process by determining in advance how private or personal participant “patients” feel specific facts are, as well as how relevant these facts may be to their treatment, and then examines factors related to their eventual willingness to disclose these facts.
The Current Study

The current study attempts to explain some of the factors related to patient self-disclosure in the medical encounter, including gender dynamics, patient overall concealment tendency, and physician verbal behavior. Participants’ overall tendencies to self-disclose, self-conceal, and disclose distress were measured prior to their exposure to the materials in this study. In the experiment, participants were asked to listen to audio files of staged doctor visits and to put themselves in the place of the patients. The study focused only on verbal behavior through the use of audio recordings, in order to eliminate the variance associated with visual cues and to isolate the effect of the different types of physician statements. The design of the study is a 2 (patient gender) x 2 (physician gender) x 3 (physician statement: symptom focused question, feeling focused question, or self-disclosure) factorial design. Two portions of the physicians’ statements in the audio file were varied by condition to include one of the three statement types.

The physician statements were manipulated to comply with one of three types of statement classified by the Roter Interaction Analysis System (RIAS; see, Roter & Larson, 2002). The RIAS is a system designed to analyze communication in medical encounters. It allows utterances (defined as the smallest meaningful string of words) in a communication sample to be classified into mutually-exclusive categories. The three categories of interest in this study are types of physician statements: question about medical condition, question about feelings, and physician self-disclosure. In this study the medical condition question was conceptualized to reflect task-oriented behavior, or the beginning of a physician-centered interview. The feeling question is conceptualized to reflect affective behavior, or the beginning of a patient-focused interview. The self-
Disclosure statement was also designed to reflect a more egalitarian physician-patient interaction, and to examine whether or not reciprocity can be induced in a medical interview.

Participants’ perceptions of the physicians were measured on the dimensions of expertness, attractiveness, and trustworthiness. In addition, participants rated their willingness to disclose specific facts to the physician in each scenario. Participants had pre-rated these facts on their perceived privacy and relevance to treatment prior to hearing the interaction. The facts were designed to reflect three levels of intimacy, consistent with the conceptualization of personality in social penetration theory (Altman & Taylor, 1973).

Hypotheses

Hypothesis 1: The condition in which female physicians demonstrate self-disclosure will elicit the greatest likelihood of disclosure ratings from female participant “patients.” In contrast, the condition in which male physicians use symptom questions with male patients is likely to elicit the least likelihood of disclosure.

Hypothesis 2: The condition in which there is a female “patient” and female physician will display the greatest likelihood of disclosure ratings by the participant “patients,” while the male “patient”-male physician condition will result in the least likelihood of disclosure ratings, with female physician-male patient and male physician-female patient falling between.

Hypothesis 3: Physician statements that are relationship-focused (i.e., patient-centered statements, such as feeling questions and self-disclosure statements) will result in greater participant “patient” likelihood of disclosure ratings than the physician
statements that are task-focused (i.e., physician-centered statements, such as symptom-related questions). Moreover, the self-disclosure statement will result in the most participant “patient” disclosure, reflecting reciprocity in self-disclosure.

Hypothesis 4: The physician self-disclosure statement condition will result in greater attractiveness ratings than the other two statement types (feeling question and symptom question), but lesser expertness ratings than the other two statement types.

Hypothesis 5: The physician symptom statement condition will result in greater expertness ratings than the other two statement types (feeling question and symptom question), but lesser attractiveness ratings than the other two statement types.

Hypothesis 6: Ratings of physician attractiveness are expected to mediate the relationship between physician self-disclosure and patient self-disclosure.

Hypothesis 7: Ratings of physician expertness are expected to mediate the relationship between symptom question and patient self-disclosure.
METHOD

Design

The current study is a 2 (gender of participant “patient”) x 2 (gender of physician) x 3 (physician statement: symptom question, feeling question, self-disclosure) x 3 (scenario problem type: no problem, fatigue, diabetes) mixed factorial design, where patient gender, physician gender, and physician statement type were between subject variables, and scenario problem type was a within subjects variable. Each participant heard scenarios which contained scripted interactions between two actors playing physicians and patients. Each participant heard only scenarios with “patients” of their own gender. Participants were randomly assigned to one physician gender and one physician statement type condition. Participants were also randomly assigned to one of three possible orders of the three problem scenarios (diabetes scenario first, fatigue scenario first, or no problem scenario first). The three orders were created using a random Latin square design, thus all possible orders of the three scenarios were not represented. In other words, each male or female “patient” listened to a total of three patient-physician interactions with the same physician (either a male or female), who consistently used one of the three physician statement types in each of the three problem scenarios.

During the development of the scripts for the interactions, a group of raters (advanced counseling psychology graduate students) determined that the stimulus statements used by the physicians for each statement condition were all appropriate
examples of their categories (symptom question, feeling question, or self-disclosure) and that the statements were roughly similar in their intensity. Additionally, a physician who had just completed a residency in Family Medicine was consulted to improve the realism of the scenarios.

Participants

Participants were 199 students (83 men and 116 women) enrolled in psychology courses at a private, Midwestern university. They were invited to participate by posted sign-up sheets and by e-mail from a list of those students who completed pre-screening surveys and gave permission to be contacted for participation in other studies. Each participant received extra credit in psychology courses in exchange for his or her participation. Participants were randomly assigned to one of three physician communication styles (symptom-focused, emotion-focused, or self-disclosure), and each one was randomly assigned to one of three scenario orders. Physician gender was also randomly assigned. Of the 199 participants, 138 (69%) were European-American, 22 (11%) were Asian or Asian-American, 21 (11%) were Hispanic or Latino/a, 6 (3%) were African-American, 2 (1%) were Native American, and 10 (5%) indicated that they were of another race or ethnicity. Participants were predominantly freshmen (59%) and ranged in age from 18 to 22 ($M = 19.08, SD = 1.15$). Participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2002), and provided their informed consent by signing a copy of the document reproduced in Appendix A.
Measures

_Counselor Rating Form-Short Form_. The short form of the Counselor Rating Form (CRF-S; Corrigan & Schmidt, 1983) consists of twelve items selected from the Counselor Rating Form (CRF; Barak & LaCrosse, 1975). These instruments are designed to assess a client’s perceptions of the expertness, attractiveness (interpersonal attractiveness), and trustworthiness of a counselor. Although the original scale was designed to reflect perceptions of a counselor, it was used in this context to evaluate perceptions of the physician in each scenario. The items from the expertness subscale of the CRF-S are “Expert,” “Experienced,” “Prepared,” and “Skillful.” The items from the attractiveness subscale of the CRF-S are “Friendly,” “Likeable,” “Sociable,” and “Warm.” The items from the trustworthiness subscale of the CRF-S are “Honest,” “Reliable,” “Sincere,” and “Trustworthy.” Participants answered on a 7-point Likert-type scale ranging from 1 (not very) to 7 (very). The internal consistencies of the three CRF-S subscales have been reported to range from .85 to .90 (Corrigan & Schmidt, 1983). Because the CRF-S subscales were rated three times by each participant, Cronbach’s alpha values for the three subscales were calculated for each of the three scenarios. Cronbach’s alpha for the attractiveness subscale ranged from .92 to .94 over the three scenarios. Cronbach’s alpha for the expertness subscale was .90 in each of the scenarios. Cronbach’s alpha for the trustworthiness subscale ranged from .83 to .87 over the three scenarios.

_Distress Disclosure Inventory_. The Distress Disclosure Inventory (DDI; Kahn & Hessling, 2001) is a twelve-item self-report measure that is designed to assess a participant’s tendency to disclose distressing information. Participants rate their
agreement with each item on a five-point scale that ranges from 1 (strongly disagree) to 5 (strongly agree). Scores may range from 12 to 60, with higher scores reflecting greater tendency to disclose when one is distressed. Kahn and Hessling (2001) report internal consistency of .94, and DDI scores have been positively correlated with measures of self-disclosure, social support, and extraversion. Cronbach’s alpha for the twelve items of the DDI in this sample was .91.

**Self-Concealment Scale.** The Self-Concealment Scale (SCS; Larson & Chastain, 1990) is a ten-item self-report measure designed to assess active concealment of negative personal information. Participants rate their agreement with each item on a five-point scale that ranges from 1 (strongly disagree) to 5 (strongly agree). Scores may range from 10 to 50, and higher scores reflect a greater tendency toward self-concealment. Larson and Chastain (1990) report internal consistency of .83, a negative correlation with a self-disclosure measure, and positive correlations with symptoms of depression and anxiety. Cronbach’s alpha for the ten items of the SCS in this sample was .84.

**Self-Disclosure Index.** The Self-Disclosure Index (SDI; Miller, Berg, & Archer, 1983) is a ten-item self-report measure that is designed to measure a participant’s willingness to disclose personal information that is not necessarily distressing. It contains items describing a range of personal issues that could be disclosed, such as emotions and relationships. Participants rate the extent of their disclosure in each situation on a five-point scale ranging from 1 (discuss not at all) to 5 (discuss fully and completely). Scores can range from 10 to 50, and higher scores reflect higher tendencies to self-disclose. Internal consistency ranges from .86 to .93, and the SDI correlates positively with other
measures of self disclosure (Miller et al., 1983). Cronbach’s alpha for the ten items of the SDI in this sample was .86.

Stimulus Materials

The stimulus materials for the study, including scripts and scenario-relevant questionnaires, may be found in Appendix C. The stimulus materials consisted of two main parts: the bank of facts and the scenario script.

The bank of facts for each scenario consisted of twelve scenario-relevant facts that were background information for each “patient.” The bank of facts was given to participants as a way of standardizing the information that was available for disclosure in the experiment. As an example, the twelve facts relevant to the diabetes scenario are presented in Table 1. The twelve facts for each scenario reflected four content areas (e.g., work concerns or religious beliefs), and each of the four content areas contained three statements with increasing levels of intimacy (i.e., superficial, intermediate, and central). An example of a superficial fact was, “She has type 1 diabetes.” An example of an intermediate fact was, “She really struggled with her diabetes as a teenager and in college.” An example of a central fact was, “She sometimes feels angry and resentful that she has to be much more careful about her health than other people do.” The three levels of intimacy were designed to reflect the three theorized levels of self-disclosure from Social Penetration Theory (Altman & Taylor, 1973). However, because participants might not have perceived these facts with the same level of intimacy that they were designed, they were asked to rate the perceived degree of intimacy (privacy) and the perceived treatment relevance (importance) of each of the facts prior to hearing the doctor-patient interaction. Participants’ ratings were then used in the analyses to
TABLE 1

BANK OF FACTS STATEMENTS FROM THE DIABETES SCENARIO

1. She/He has type 1 diabetes.

2. She/He really struggled with her/his diabetes as a teenager and in college.

3. She/He sometimes feels angry and resentful that she/he has to be much more careful about her/his health than other people do.

4. Her/His service work is managing the after-school programs for a large rural school district.

5. She/He is feeling overwhelmed because she/he has many more responsibilities than she/he has ever had in a job before.

6. She/He sometimes works through meals and does not eat according to her diet plan.

7. She/He is living alone for the first time.

8. She/He feels pretty isolated and lonely in her/his new town.

9. She/He has found it hard not to snack and overeat when she/he is home alone in the evenings.

10. She/He has had some difficulty getting along with her/his coworkers because she/he is very different from them in age and family background.

11. She/He doesn’t want her/his coworkers to know that she/he has diabetes.

12. She/He hides her/his diabetes at work by not checking blood sugars in front of everyone in the cafeteria and not asking for special sugar-free foods.
determine the relationship between perceived intimacy (privacy) and perceived treatment relevance (importance) of facts and their eventual likelihood of disclosure.

Three scenarios were scripted, and participants were asked to imagine that they were the “patient” in the scenario. Each “patient” created in the scenarios was a recent college graduate who had reason to seek a new doctor. The scenarios were constructed with gender-neutral language so that each participant could hear a “patient” of the same gender. The conversations reflected the “patients’” first visits with a primary care physician. The presenting complaints in the three scenarios were poorly-controlled diabetes, fatigue and other symptoms of depression, and no physical complaints. During the taped conversation, the “patient” disclosed one of the twelve facts from the bank of facts for that scenario (e.g., in the diabetes scenario the fact disclosed was, “She has type 1 diabetes.”), and the physician used one of the three types of stimulus statements (symptom question, feeling question, or self-disclosure) to elicit more information. For example, in the diabetes scenario, one of the symptom questions was, “How have your blood sugars been in the morning?” A feeling question was, “Are you feeling stressed about anything?” A self-disclosure statement was, “Having gone through it with my sister, I understand better as a physician how helpless diabetes can make a person feel at times.” The complete scenario conversations are reproduced in Appendix C, and the physician stimulus statements used in each scenario are listed in Table 2. Immediately after the stimulus statements, the participants were asked for their likelihood of disclosure ratings for each fact in the bank of facts and their perceptions of the physician, as rated on the CRF-S.


**TABLE 2**

**STIMULUS STATEMENTS USED IN EACH OF THE THREE PHYSICIAN STATEMENT CONDITIONS LISTED BY SCENARIO**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Symptom Question</th>
<th>Feeling Question</th>
<th>Self-Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Problem Scenario</td>
<td>Have you had any physical problems lately? Did you have any physical symptoms around the time you moved?</td>
<td>Are you feeling stressed about anything? How were you feeling about moving?</td>
<td>I know when I’ve had big changes, like when I’ve moved to a new city, I didn’t feel quite as healthy for a little while afterward. I know Chicago was intimidating for me when I first moved here.</td>
</tr>
<tr>
<td>Fatigue Scenario</td>
<td>Are you having any other physical problems right now? When do you usually feel this tiredness?</td>
<td>Are you feeling stressed about anything? Are you feeling fearful about these symptoms?</td>
<td>I know there were some times in my residency training when I was just dead on my feet. I know when I’m not feeling well, I really want to know what’s going on.</td>
</tr>
<tr>
<td>Diabetes Scenario</td>
<td>How have your blood sugars been in the morning? Have you been having any physical symptoms?</td>
<td>Are you feeling stressed about anything? How are you feeling about that?</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2 (continued)

<table>
<thead>
<tr>
<th>Diabetes Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Disclosure</strong></td>
</tr>
</tbody>
</table>

**Apparatus**

Scenarios were recorded using a digital audio recording device. Each actor (psychology undergraduate and graduate students and a postdoctoral fellow) read each scenario, including all three possible physician statement types in the physician verbal behavior conditions. These files were downloaded onto a computer hard drive and digitally manipulated and combined to form each of the 36 possible conversations (2 patient genders x 2 physician genders x 3 problem scenarios x 3 physician statement types). Each of the 18 male physician conversations were created with the same male actor as physician, and each of the 18 female physician conversations were created with the same female actor as physician. Each patient actor was used for one problem. The complete group of conversations was recorded onto CD-R, with one conversation per track, and the three appropriate tracks were played for each group of participants (i.e., the correct track based upon the randomly assigned physician statement type condition, physician gender condition, and order) via a portable CD player.
Procedure

As indicated earlier, participants were recruited from a list of students who volunteered to participate in a pre-screening survey and indicated that they would like to be contacted for further studies. Students who had not participated in the pre-screening survey were able to participate by signing up in the Psychology Department building. Participants were scheduled for sessions with a small group of participants, which ranged from 1 to 7.

Upon arrival, participants were given informed consent documents (see Appendix A), and routine demographic information was collected. They were administered the self-disclosure scales (DDI, SCS, and SDI). Then, participants were instructed that they would be listening to a doctor interact with three of his or her patients, and they were introduced to the first of three scenarios and its twelve related facts. After rating the bank of facts for their privacy and importance, participants were instructed to put themselves in the place of the patient in the scenario as they listened to a conversation between the physician and the patient. Immediately after the stimulus statements were delivered, the recording stopped, and the participants were asked to indicate how willing they would be to disclose the same twelve facts to the physician in that scenario. Finally, they were asked to complete the CRF-S to rate the expertness, attractiveness, and trustworthiness of the physician in the current scenario. The same procedure was followed as each participant responded to the other two problem scenarios.

Manipulation check questions were used to examine whether or not the participants perceived the physician statements as designed, including questions
regarding the focus on symptoms or feelings, the perception of patient- or physician-centered power, and the level of disclosure of the physician.
RESULTS

Scoring

For each scenario, likelihood of disclosure ratings (as measured on six-point Likert-type scales with higher ratings indicating greater likelihood of disclosure) for each fact were summed to create a total likelihood of disclosure variable. These values were then standardized. Similar variables were created for total importance ratings and total privacy ratings for the twelve facts in each scenario. The CRF-S for each scenario was scored for the total of each subscale and a total CRF-S score. Self-disclosure tendency ratings were created by scoring the DDI, SCS, and SDI, such that higher ratings indicated more tendency toward disclosure, these three scales scores were then standardized, and a summary variable was created which combined the standardized scores on each of the three scales.

Manipulation Checks

Manipulation checks were designed for this study to evaluate the quality of the physician statement type experimental manipulation. Three questions, each answered on a six-point Likert-type scale, addressed the physician’s communication style, and they can be seen as they were presented to participants in Appendix B.

The first question was written to examine participants’ perceptions of the physician’s primary focus on the patients’ emotions or physical symptoms, and was evaluated with a one-way analysis of variance (ANOVA). The independent variable,
physician communication style, included three levels: emotion-focused, symptom-focused, and self-disclosure. The dependent variable was the participant’s response on the six-point Likert-type scale, which was anchored 1 (physical symptoms) and 6 (patient emotions). The ANOVA was significant, $F(2, 196) = 39.54$, $p < .01$. The strength of the relationship between the condition and the primary focus, as assessed by $\eta^2$, was strong, with the physician communication condition accounting for 29% of the variance of the dependent variable.

Follow-up tests were conducted to evaluate pairwise differences among the means for physician focus. Because these tests were planned and all pairwise comparisons were evaluated, Tukey’s method was used to control experimentwise error rate. There was a significant difference in the means between the symptom-focused and emotion-focused groups and between the symptom-focused group and the self-disclosure group, but there was no significant difference between the emotion-focused group and the self-disclosure group. The participants in the symptom-focused physician communication condition did rate the physician as more focused on symptoms than did the participants in the other two groups. The means and standard deviations for the three physician communication style groups are reported in Table 3. These results indicate that the manipulation of focus on symptoms in the physician statement types was salient to participants, and they did rate the symptom-focused statement type as more focused on symptoms than the other two statement types.

The second question was written to examine participants’ perceptions of the physician’s openness, and was evaluated with a one-way analysis of variance. The independent variable, physician communication style, included three levels: emotion-
TABLE 3
PAIRWISE DIFFERENCES IN “PATIENTS’” RATINGS OF PHYSICIAN FOCUS ON SYMPTOMS VERSUS EMOTIONS

<table>
<thead>
<tr>
<th>Physician Statement Type</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom Question</td>
<td>2.50^a</td>
<td>1.04</td>
</tr>
<tr>
<td>Feeling Question</td>
<td>3.96^b</td>
<td>1.27</td>
</tr>
<tr>
<td>Self-Disclosure</td>
<td>4.06^b</td>
<td>1.16</td>
</tr>
</tbody>
</table>

NOTE: Mean values that do not share a superscript are significantly different at the .05 level using Tukey’s method.

focused, symptom-focused, and self-disclosure. The dependent variable was the participant’s response on the six-point Likert-type scale, which was anchored 1 (more revealing) and 6 (more private). The ANOVA was significant, \( F(2, 196) = 39.61, p < .01 \). The strength of the relationship between the condition and the primary focus, as assessed by \( \eta^2 \), was strong, with the physician communication condition accounting for 29% of the variance of the dependent variable.

Follow-up tests were conducted to evaluate pairwise differences among the means for physician openness. Because these tests were planned and all pairwise comparisons were evaluated, Tukey’s method was used to control experimentwise error rate. There was a significant difference in the means between the symptom-focused and self-disclosure groups and between the emotion-focused and the self-disclosure groups, but there was no significant difference between the emotion-focused group and the symptom-
focused group. The participants in the self-disclosure physician communication condition did rate the physician as more open than did the participants in the other two groups. The means and standard deviations for the three physician communication style groups are reported in Table 4. The results of these tests indicated that the manipulation of physician openness in the statement types was salient to participants, and they did rate the self-disclosure statement type as more open than the other two statement types.

The third question was written to examine participants’ perceptions of the physician’s perceived control style, and was evaluated with a one-way analysis of variance. The independent variable, the physician communication style, included three levels: emotion-focused, symptom-focused, and self-disclosure. The dependent variable was the participant’s response on the six-point Likert-type scale, which was anchored 1 (physician in control) and 6 (patient in control). The ANOVA was nearing significance, \( F(2, 196) = 2.88, p = .058 \).

**TABLE 4**

PAIRWISE DIFFERENCES IN “PATIENTS’” RATINGS OF PHYSICIAN OPENNESS (REVEALING VERSUS PRIVATE)

<table>
<thead>
<tr>
<th>Physician Statement Type</th>
<th>( M )</th>
<th>( SD )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom Question</td>
<td>3.64(^a)</td>
<td>1.00</td>
</tr>
<tr>
<td>Feeling Question</td>
<td>3.68(^a)</td>
<td>1.12</td>
</tr>
<tr>
<td>Self-Disclosure</td>
<td>2.23(^b)</td>
<td>.78</td>
</tr>
</tbody>
</table>

NOTE: Mean values that do not share a superscript are significantly different at the .05 level using Tukey’s method.
Though the omnibus test was not significant in this case, previously planned follow-up tests were conducted to evaluate pairwise differences among the means for physician control style. Because these tests were planned and all pairwise comparisons were evaluated, Tukey’s method was used to control experimentwise error rate. There was a significant difference in the means between the symptom-focused and self-disclosure groups, but there was no significant difference between the emotion-focused and symptom-focused groups or the emotion-focused and the self-disclosure groups. The participants in the self-disclosure physician communication condition did rate the physician’s style as more patient in control than did the participants in the symptom-focused communication condition. The means and standard deviations for the three physician communication style groups are reported in Table 5.

In summary, the manipulation checks appear to demonstrate that the physician statement type did, in fact, affect the participants’ perception of the physicians’ focus on

TABLE 5
PAIRWISE DIFFERENCES IN “PATIENTS’” RATINGS OF PHYSICIAN CONTROL STYLE (PHYSICIAN IN CONTROL VERSUS PATIENT IN CONTROL)

<table>
<thead>
<tr>
<th>Physician Statement Type</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom Question</td>
<td>2.83a</td>
<td>1.03</td>
</tr>
<tr>
<td>Feeling Question</td>
<td>3.04ab</td>
<td>.99</td>
</tr>
<tr>
<td>Self-Disclosure</td>
<td>3.25b</td>
<td>.91</td>
</tr>
</tbody>
</table>

NOTE: Mean values that do not share a superscript are significantly different at the .05 level using Tukey’s method.
symptoms or emotions, openness, and control style. Additionally, each of these items demonstrated an expected relationship between the experimental manipulation and the participants’ perceptions.

Analysis of Potential Covariates

Correlation coefficients were used to evaluate the usefulness of the hypothesized covariates in the analysis of the experimental hypotheses and the equivalence of the three scenarios. Specifically, the relationships between the likelihood of disclosure scores (dependent variables of the ANCOVAs) and the potential covariates (self-disclosure tendency, and ratings of privacy and importance for the facts in each of the three scenarios) were examined. The values of the correlations, including their \(p\)-values are reported in Table 6.

These correlations appear to show that, in general, participants who scored higher on the self-disclosure tendency scales did indeed rate themselves as more likely to disclose in this experiment. The correlations coefficients for these comparisons were in the “small” range, according to Cohen’s categorization. Second, as ratings of importance increase, so does the likelihood of disclosure, especially in the no problem scenario. These correlation coefficients were in the “medium” to “large” range, with the strongest relationship demonstrated in the no problem scenario. Third, as ratings of privacy increased, the likelihood of disclosure decreased. These correlation coefficients were in the “small” range, and again, the no problem scenario demonstrated the strongest relationship. The inverse relationship between privacy and disclosure is not surprising, but the smaller correlations (as compared to those of the ratings of importance) may suggest that this trend is less strong than the importance trend. This may indicate that
TABLE 6
CORRELATIONS BETWEEN STANDARDIZED LIKELIHOOD OF DISCLOSURE RATINGS IN EACH SCENARIO AND RELEVANT POTENTIAL COVARIATES

<table>
<thead>
<tr>
<th></th>
<th>Diabetes</th>
<th>Fatigue</th>
<th>No Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Disclosure Tendency</td>
<td>.24 ($p &lt; .001$)</td>
<td>.12 ($p = .10$)</td>
<td>.19 ($p &lt; .01$)</td>
</tr>
<tr>
<td>Diabetes Importance</td>
<td>.46 ($p &lt; .001$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes Privacy</td>
<td>-.13 ($p = .07$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue Importance</td>
<td></td>
<td>.37 ($p &lt; .001$)</td>
<td></td>
</tr>
<tr>
<td>Fatigue Privacy</td>
<td></td>
<td>-.14 ($p = .05$)</td>
<td></td>
</tr>
<tr>
<td>No Problem Importance</td>
<td></td>
<td></td>
<td>.56 ($p &lt; .001$)</td>
</tr>
<tr>
<td>No Problem Privacy</td>
<td></td>
<td></td>
<td>-.23 ($p &lt; .01$)</td>
</tr>
</tbody>
</table>

NOTE: Self-disclosure tendency = SCS + SDI + DDI.

participants considered importance to treatment the more vital factor in disclosure, compared to how private they perceived the facts to be. These findings confirm the importance of using self-disclosure tendency, perceived importance of facts, and perceived privacy of facts as covariates in the main analysis, to ensure that potential differences in the likelihood of disclosure ratings are due to the experimental manipulation and not these other variables. This analysis also emphasizes the potential difference between the no problem scenario and the other two problem scenarios.
Analysis of Scenario Order

Order effects were examined using three one-way ANOVAs. The three scenario types were analyzed separately to help determine their equivalence and whether or not to combine the scenarios in the subsequent analyses. The independent variable in each ANOVA, order of scenario presentation, consisted of three levels that corresponded to the three possible positions in which the scenario could be presented (first, second, or third). The dependent variable in each ANOVA was the likelihood of disclosure total (the sum of all twelve likelihood of disclosure ratings from the bank of facts) for the appropriate problem scenario. The diabetes scenario ANOVA, with order of presentation as the independent variable and diabetes likelihood of disclosure ratings as the dependent variable, was not significant. Similarly, order of the fatigue scenario with likelihood of disclosure ratings as the dependent variable, yielded no significant differences. These two tests seem to indicate that order of presentation of these scenarios did not significantly affect the likelihood of disclosure ratings. However, the ANOVA for likelihood of disclosure in the no problem scenario was significant, $F(2, 196) = 5.45, p < .01$. The strength of the relationship between the order of presentation and likelihood of disclosure, as assessed by $\eta^2$, was weak, with scenario order accounting for 5% of the variance of the dependent variable. Follow-up tests evaluating the differences between the means using Tukey’s method indicated that when the no problem scenario was presented first (in the scenario order no problem, diabetes, fatigue), likelihood of disclosure ratings were significantly less in the no problem scenario ($M = 41.14, SD = 7.60$) than when it was presented second (fatigue, no problem, diabetes; $M = 45.50, SD = \ldots$)
8.53) or when it was presented third (diabetes, fatigue, no problem; $M = 45.51$, $SD = 9.63$). The second and third positions were not significantly different from one another.

In conclusion, it appears from both the potential covariate analysis and the analysis of order effects that the no problem scenario is conceptually different from the other two scenarios. In the analysis of the experimental hypotheses, the fatigue and diabetes scenarios will be combined and the no problem scenario will be analyzed separately.

Analysis of Experimental Hypotheses

Hypothesis 1 predicted that the condition in which female physicians demonstrated self-disclosure statements would elicit the greatest likelihood of disclosure ratings from female participant “patients.” In contrast, it was predicted that the condition in which male physicians used symptom questions with male patients would elicit the least likelihood of disclosure ratings. Hypothesis 1 predicted a significant three-way interaction of gender of participant “patient,” gender of physician, and physician statement type. In addition, it predicted a significant difference between the female-female self-disclosure statement cell and the male-male symptom statement cell.

To evaluate Hypothesis 1 for the no problem group, a 2 (gender of participant “patient”) x 2 (gender of physician) x 3 (physician statement: symptom question, feeling question, self-disclosure) analysis of covariance (ANCOVA) was conducted, in which gender of participant “patient,” gender of physician, and physician statement were between subjects variables, with self-disclosure tendency and ratings of importance and privacy for the no problem facts as covariates, to evaluate the relationship between the independent variables and the participants’ likelihood of disclosure ratings in the no
problem scenario. The adjusted means of the raw values for likelihood of disclosure as a function of the three factors for the no problem scenario are presented in Table 7. The ANCOVA did indicate a significant three-way interaction among the factors, $F(2, 184) = 3.28, p = .04$, partial $\eta^2 = .03$.

An initial planned comparison was examined between the female participant “patient”, female physician, self-disclosure statement cell and the male participant “patient”, male physician, symptom statement cell. This comparison was significant, $t(27) = -2.57, p = .02$, with the female-female self-disclosure cell greater than the male-

<table>
<thead>
<tr>
<th>Physician Statement Type</th>
<th>Participant Gender</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td>Symptom</td>
<td>Feeling</td>
<td>Self-Disclosure</td>
</tr>
<tr>
<td>Female</td>
<td>Female</td>
<td>42.08</td>
<td>46.99</td>
<td>46.87</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>44.36</td>
<td>45.50</td>
<td>44.31</td>
</tr>
<tr>
<td>Male</td>
<td>Female</td>
<td>46.82</td>
<td>43.82</td>
<td>42.82</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>40.93</td>
<td>40.62</td>
<td>45.64</td>
</tr>
</tbody>
</table>

NOTE: Adjusted means reflect adjustment for the covariates self-disclosure tendency, privacy ratings of facts, and importance ratings of facts.
male symptom cell, as predicted in Hypothesis 1 (see Table 7). However the results do not support the hypothesis that these two cells would result in the “most” and “least” (respectively) likelihood of disclosure ratings.

Follow-up tests were employed to examine the three-way interaction further, and Bonferroni’s adjustment was used to adjust alpha and control for Type I error over the repeated tests. Tests of the simple interactions (participant gender by physician gender interaction within each of the three statement types), with alpha set at .0167 (.05 / 3 = .0167), were non-significant. The participant gender by physician gender interaction within the symptom question group neared the critical significance level, $F(1, 69) = 5.47$, $p = .02$. Tests of the simple, simple main effects within the symptom question group were conducted with alpha set at .004 (.0167 / 4 = .004), and were also non-significant. The simple, simple main effect of patient gender within male physician and symptom question, $F(1, 33) = 4.96$, $p = .03$, was nearing significance at the .004 level, and the trend indicated that male physicians were more likely to elicit information from women than from men when using a symptom question (there was no significant difference for female physicians). The simple, simple main effect of physician gender within men who heard the symptom question, $F(1, 23) = 7.10$, $p = .01$, was nearing significance at the .004 level, and the trend suggested that, in the symptom question condition, men were more likely to disclose to a female physician than a male physician (there was no significant difference for women). Tests of the simple main effects within the remaining two statement types were tested with alpha set at .0125 (.05 / 4 = .0125), and yielded no significant results. The simple main effect of patient gender within the feeling question group, averaging over physician gender, was nearly significant, $F(1, 66) = 4.00$, $p = .05$, 41
which suggests that, in the no problem scenario, when asked a feeling question, women were more likely to disclose than men. It should be reiterated, however, that the differences between the groups were not statistically significant after correction to alpha to control Type I error.

To evaluate Hypothesis 1 for the fatigue and diabetes combined scenarios, similar analysis was conducted as for the no problem scenario. As described above, the dependent variable for this analysis was constructed by standardizing the likelihood of disclosure scores for both the diabetes and fatigue scenarios and summing the standardized values to form a composite. The means of the diabetes and fatigue scenarios composite as a function of the three factors are presented in Table 8. The means as a function of the three physician statement types and the four gender dyad conditions are presented in Figure 1.

There was no significant three-way interaction in the 2 x 2 x 3 ANCOVA for the combined fatigue and diabetes scenarios ($p > .5$). A planned comparison was examined between the female participant “patient”, female physician, self-disclosure statement cell and the male participant “patient”, male physician, symptom statement cell. This comparison was significant, $t(27) = -2.53, p = .02$, with the female-female self-disclosure cell greater than the male-male symptom cell, as predicted in Hypothesis 1. However the results do not support the hypothesis that these two cells would result in the “most” and “least” (respectively) likelihood of disclosure ratings.
**TABLE 8**

MEANS OF SUM OF STANDARDIZED LIKELIHOOD OF DISCLOSURE RATINGS IN THE FATIGUE AND DIABETES COMBINED SCENARIOS BY STATEMENT TYPE AND PARTICIPANT “PATIENT” AND PHYSICIAN GENDER

<table>
<thead>
<tr>
<th>Participant Gender</th>
<th>Physician Gender</th>
<th>Physician Statement Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Female</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>-.76</td>
</tr>
<tr>
<td>Male</td>
<td>Female</td>
<td>-.97</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>-.53</td>
</tr>
<tr>
<td></td>
<td>Symptom</td>
<td>.76</td>
</tr>
<tr>
<td></td>
<td>Feeling</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Self-Disclosure</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>-.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Adjusted means reflect adjustment for the covariates self-disclosure tendency, privacy ratings of facts, and importance ratings of facts.
Hypothesis 2 predicted that the condition in which there is a female “patient” and female physician would display the greatest likelihood of disclosure ratings by the participant “patients,” while the male “patient”-male physician condition would result in the least likelihood of disclosure ratings, with female physician-male patient and male physician-female patient falling between. This hypothesis predicted a significant gender of “patient” by gender of physician interaction in the 2 x 2 x 3 ANCOVA, and significant pairwise comparisons of each of the four gender dyad conditions, in which the female-female dyad would result in the greatest likelihood of disclosure ratings and the male-
male dyad would result in the least likelihood of disclosure ratings. Neither the analysis of the no problem scenario nor the combined diabetes and fatigue scenarios resulted in significant gender of “patient” by gender of physician interactions. However, the combined fatigue and diabetes scenarios did result in a significant main effect of participant “patient” gender, $F(1, 184) = 3.96, p = .05$, partial $\eta^2 = .02$, in which female participants rated higher likelihood of disclosure ($M = .22, SE = .15$) than did male participants ($M = -.26, SE = .18$). Hypothesis 2 was not supported in any of the scenarios.

Hypothesis 3 stated that physician statements that were relationship-focused (i.e., patient-centered statements, such as feeling questions and self-disclosure statements) would result in greater participant “patient” likelihood of disclosure ratings than the physician statements that were task-focused (i.e., physician-centered statements, such as symptom-related questions). Moreover, it was predicted that the self-disclosure statement type would result in the most participant “patient” disclosure, reflecting reciprocity in self-disclosure. Hypothesis 3 predicted a significant main effect of physician statement type, and furthermore predicted that pairwise comparisons would show the self-disclosure statement type resulting in the greatest levels of disclosure, while the symptom-focused statement type would result in the least disclosure.

First, for the no problem scenario, a $2 \times 2 \times 3$ ANCOVA was conducted to evaluate the effects of gender of participants, gender of physician, and three physician statement type conditions on likelihood of disclosure ratings. No significant main effect of physician statement was present in the no problem group ($p > .5$). Hypothesis 3 was not supported in the no problem scenario.
To evaluate Hypothesis 3 for the fatigue and diabetes scenarios, a similar 2 x 2 x 3 ANCOVA was conducted for values that represented the combined standardized values of the fatigue and diabetes scenarios. Again, gender of participant “patient,” gender of physician, and physician statement were between subjects variables, with self-disclosure tendency and ratings of importance and privacy for the combined fatigue and diabetes facts as covariates, and the dependent variable was the combined standardized values of the participants’ likelihood of disclosure ratings for the fatigue and diabetes scenarios. A significant main effect of physician statement type was present, $F(2, 184) = 4.472, p = .01$, partial $\eta^2 = .05$. Pairwise comparisons of the three statement type groups indicated the only significant difference was between the symptom and feeling statement groups ($p = .01$), in which the symptom statement group disclosed less ($M = -.47, SE = .19$) than did the feeling statement group ($M = .32, SE = .19$). Hypothesis 3 was partially supported in the combined fatigue and diabetes scenarios.

Hypothesis 4 predicted that the physician self-disclosure statement condition would result in greater attractiveness ratings on the CRF-S than the other two statement types (feeling question and symptom question). Further, it was hypothesized that the physician self-disclosure statement condition would result in lower expertness ratings on the CRF-S than the other two statement types. Hypothesis 4 was evaluated with two one-way ANOVAs, one for the no problem scenario and one for the combined fatigue and diabetes scenarios. The independent variable for each ANOVA, physician statement type, included three levels: symptom question, feeling question, and self-disclosure. The dependent variable for the no problem scenario was the sum of the participants’ responses for each subscale of the CRF-S. Pairwise comparisons of the statement types
were calculated for each subscale of the CRF-S, and the means for the no problem scenario are presented in Table 9. Type I error was controlled in these tests using Tukey’s method, except in the attractiveness subscale tests, where unequal variances between groups made Dunnett’s T3 procedure more appropriate.

For attractiveness in the no problem scenario, Hypothesis 4 was partially supported, as the self-disclosure condition resulted in greater attractiveness ratings than the symptom condition, but not the feeling condition. For expertness, Hypothesis 4 was not supported in the no problem scenario because none of the groups were significantly different.

In analysis of the combined fatigue and diabetes scenarios, the independent variable was physician statement type, which included three levels: symptom question, feeling question, and self-disclosure. The dependent variable for the combined fatigue and diabetes scenarios was the sum of the standardized responses for the two scenarios.

<table>
<thead>
<tr>
<th></th>
<th>Attractiveness</th>
<th>Expertness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom Question</td>
<td>21.45&lt;sup&gt;a&lt;/sup&gt;</td>
<td>20.83&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Feeling Question</td>
<td>23.06&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>20.52&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Self-Disclosure Statement</td>
<td>24.54&lt;sup&gt;b&lt;/sup&gt;</td>
<td>21.15&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**NOTE:** Values within the same column that do not share a superscript are significantly different at the .05 level.
for each subscale of the CRF-S. Pairwise comparisons of the statement types were calculated for each subscale of the CRF-S, and the means for the combined fatigue and diabetes scenarios are presented in Table 10. Type I error was controlled in these tests using Tukey’s method. These tests indicated that for attractiveness, the self-disclosure condition resulted in the highest ratings across scenarios, supporting Hypothesis 4. For expertness, the self-disclosure condition was not significantly different from the other conditions, and this result does not support the predictions made in Hypothesis 4.

Hypothesis 5 predicted that the symptom statement condition would result in greater expertness ratings on the CRF-S than the other two statement types (feeling question and self-disclosure). It also was predicted that the symptom statement condition would result in lower attractiveness ratings on the CRF-S than the other two statement types. The evaluation of Hypothesis 5 was conducted using the same two one-way

### TABLE 10

MEANS OF COMBINED FATIGUE AND DIABETES SCENARIOS
STANDARDIZED CRF-S SUBSCALE SCORES BY PHYSICIAN STATEMENT TYPE

<table>
<thead>
<tr>
<th>Type</th>
<th>Attractiveness</th>
<th>Expertness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom Question</td>
<td>-0.45(^a)</td>
<td>-0.03(^c)</td>
</tr>
<tr>
<td>Feeling Question</td>
<td>-0.05(^a)</td>
<td>-0.15(^c)</td>
</tr>
<tr>
<td>Self-Disclosure Statement</td>
<td>0.73(^b)</td>
<td>0.24(^c)</td>
</tr>
</tbody>
</table>

NOTE: Values within the same column that do not share a superscript are significantly different at the .05 level.
ANOVA as the analysis of Hypothesis 4. In expertise ratings, the three conditions were not significantly different from one another in either the no problem scenario analysis or in the combined fatigue and diabetes scenarios, which does not support Hypothesis 5. For attractiveness ratings, in both analyses the symptom condition was rated significantly lower than the self-disclosure condition, but was not significantly different from the feeling condition, partially supporting Hypothesis 5.

Hypothesis 6 predicted that ratings of physician attractiveness would mediate the relationship between physician self-disclosure and patient self-disclosure. To evaluate this hypothesis, a series of regression models were estimated, following the suggested method of Baron and Kenny (1986). In these models, physician self-disclosure was estimated using the manipulation check which asked participants to rate the openness of the physician on a scale from 1 (more revealing) to 6 (more private). Physician attractiveness was measured using the attractiveness scale of the CRF-S as measured immediately after the relevant scenario. Patient self-disclosure was measured with the likelihood of disclosure ratings for the facts in the relevant scenario.

First, in the no problem scenario, there was no significant relationship between perceived physician self-disclosure and patient likelihood of disclosure ($p > .10$) in the absence of the potential mediator (attractiveness). However, perceived physician self-disclosure did significantly predict ratings of attractiveness, $\beta = -\.342, t(197) = -.511, p < .001$, and ratings of attractiveness did significantly predict patient likelihood of disclosure, $\beta = .143, t(197) = 2.02, p = .04$. Thus, an indirect relationship was present between perceived physician self-disclosure and patient likelihood of disclosure, in support of Hypothesis 6.
Next, in the combined fatigue and diabetes scenarios, there were no significant relationships among any of the variables (perceived physician self-disclosure, attractiveness, or participant likelihood of disclosure) in the regression analyses (all $p$s > .30). Thus, there was no mediator relationship demonstrated for these variables in the fatigue and diabetes scenarios, which does not support Hypothesis 6.

Hypothesis 7 predicted that ratings of physician expertness would mediate the relationship between the symptom-focused nature of the physicians’ statements and patient self-disclosure. As with Hypothesis 6, a series of regression models were estimated, following the method suggested by Baron and Kenney (1986). In each of these models, the extent to which the statement of the physician was perceived as symptom-focused was estimated using the manipulation check which asked participants to rate the focus of the physician on a scale from 1 (physical symptoms) to 6 (patient emotions). Physician expertness was measured using the expertness scale of the CRF-S as measured immediately after the relevant scenario. Patient self-disclosure was measured with the likelihood of disclosure ratings for the facts in the relevant scenario.

First, in the no problem scenario, there was no significant relationship between perceived physician symptom focus and patient likelihood of disclosure ($p > .10$) in the absence of the potential mediator (expertness). Also, perceived physician symptom focus did not significantly predict ratings of expertness ($p > .40$). However, ratings of expertness did significantly predict patient likelihood of disclosure, $\beta = .164$, $t(197) = 2.33$, $p = .02$. There was no mediator relationship present in the no problem scenario for these variables, which does not support Hypothesis 7.
Next, in the combined fatigue and diabetes scenarios, there was a significant relationship between perceived physician symptom focus (with higher ratings indicating more focus on patient emotions) and patient likelihood of disclosure, $\beta = .173$, $t(197) = 2.47$, $p = .02$. Expertness did not significantly predict patient likelihood of disclosure, and perceived physician symptom focus did not significantly predict ratings of expertness ($ps > .20$). Thus, there was no mediator relationship demonstrated for these variables in the fatigue and diabetes scenarios, which does not support Hypothesis 7.

Additional Analyses

_Level of intimacy analysis._ In addition to the tests of the experimental hypotheses, the relationship between the design characteristics of the facts in the bank of facts and their eventual likelihood of disclosure ratings was also examined. As described in the Stimulus Materials section, the twelve facts for each scenario reflected four content areas (e.g., work concerns, eating habits, physical symptoms, or religious beliefs), and each of the four content areas contained three statements with increasing levels of intimacy. These statements were designed with three levels of intimacy (superficial, intermediate, and central) to reflect the three theorized levels of self-disclosure from Social Penetration Theory (Altman & Taylor, 1973).

Likelihood of disclosure ratings for each fact were recoded into variables that reflected their designed intimacy level. That is, the twelve facts for each scenario were combined into three “level of intimacy” variables, labeled superficial (least intimate), intermediate, and central (most intimate). The mean values for each level of intimacy in each of the three scenarios are presented in Table 11. The analysis showed that participants rated their likelihood of disclosure higher in each scenario for the facts with
superficial level of intimacy, and they rated their likelihood of disclosure lowest for the facts with central level of intimacy. The exception to this trend was the diabetes scenario, in which participants’ ratings of likelihood of disclosure of superficial and central facts were not significantly different from one another (p > .09), but the ratings for both of these levels were significantly larger than the ratings for intermediate level of intimacy.

These results indicate that participants rated themselves as more likely to disclose less intimate facts, except in the diabetes scenario. One explanation for the difference in this scenario could be that the diabetes scenario reflects the exchange of information that could significantly impact the patient’s health, which might supercede the impact of the level of intimacy. Alternatively, while the facts were designed to reflect the three levels of intimacy, the participants might not have perceived the diabetes facts designated “superficial” in their design as truly being less intimate than the central facts.

### TABLE 11

<table>
<thead>
<tr>
<th></th>
<th>No Problem</th>
<th>Fatigue</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial</td>
<td>17.16 (2.88)</td>
<td>16.89 (2.90)</td>
<td>15.01 (3.70)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>15.33 (3.29)</td>
<td>16.15 (3.33)</td>
<td>13.65 (3.88)</td>
</tr>
<tr>
<td>Central</td>
<td>11.62 (4.03)</td>
<td>12.14 (4.18)</td>
<td>14.71 (4.03)</td>
</tr>
</tbody>
</table>

NOTE: Values reported are means with standard deviations in parenthesis. Values in the same column that do not share a superscript are significantly different at the .05 level.
To examine whether participants’ perceptions of the intimacy of the facts corresponded with the designed levels of intimacy, the privacy ratings for each fact were recoded into variables that reflected the facts’ designed intimacy level. That is, the twelve facts for each scenario were combined into three “level of intimacy” variables, again labeled superficial (least intimate), intermediate, and central (most intimate). The mean values for each level of intimacy in each of the three scenarios are presented in Table 12. The analysis showed that participants rated the privacy of facts higher in each scenario for the facts with central level of intimacy, and they rated the privacy of facts lowest for the facts with superficial level of intimacy. The exception to this trend was the diabetes scenario, in which participants’ ratings of privacy of intermediate and central facts were not significantly different from one another ($p > .33$), but the ratings for both of these levels were significantly larger than the ratings for the superficial level of intimacy.

These findings suggest that participants did rate the facts that were designed with higher levels of intimacy as more private, although they did not appear to make a distinction between the intermediate and central levels of intimacy in the diabetes scenario facts.

*Analysis of trends across trials.* In order to determine whether or not participants’ likelihood of disclosure ratings and perceptions of the physician changed over the course of the three scenarios, a series of one-way within-subjects ANOVAs were conducted. Prior to the analysis, variables were created in which the likelihood of disclosure ratings and ratings of attractiveness, trustworthiness, and expertness (from the CRF-S) were
TABLE 12
MEAN VALUES OF PRIVACY RATINGS FOR THREE LEVELS OF INTIMACY IN EACH SCENARIO

<table>
<thead>
<tr>
<th></th>
<th>No Problem</th>
<th>Fatigue</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial</td>
<td>8.88 (2.70)(^a)</td>
<td>10.56 (2.99)(^d)</td>
<td>11.13 (2.73)(^g)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>12.19 (3.05)(^b)</td>
<td>14.01 (3.13)(^e)</td>
<td>16.93 (3.13)(^h)</td>
</tr>
<tr>
<td>Central</td>
<td>16.22 (3.56)(^c)</td>
<td>16.67 (3.47)(^f)</td>
<td>16.61 (3.02)(^h)</td>
</tr>
</tbody>
</table>

NOTE: Values reported are means with standard deviations in parenthesis. Values in the same column that do not share a superscript are significantly different at the .05 level.

recoded to reflect which ordinal position they were collected from, regardless of scenario. That is, the ratings in this analysis were not organized by the scenario topic (no problem, fatigue, or diabetes), but by whether the ratings were collected in the scenario presented first, second, or third.

A within-subjects ANOVA was conducted with the factor being the trial number (first, second, or third scenario) and the dependent variable being the likelihood of disclosure scores. The means and standard deviations for the expertness scores are presented in Table 13. The results for the ANOVA indicated a significant effect of trial number, Wilks’s \(\Lambda = .97\), \(F(2, 197) = 3.25, p = .04\), multivariate \(\eta^2 = .03\). Pairwise comparisons between the trials indicated that the first trial was significantly different from the second trial, \(t(198) = -2.27, p = .02\) (significant at alpha = .05 / 2 = .025, using Holm’s sequential Bonferroni procedure), but there was no significant difference between the first and third or second and third trials.
A second within-subjects ANOVA was conducted with the factor being the trial number (first, second, or third scenario) and the dependent variable being the expertness scores. The means and standard deviations for the expertness scores are also presented in Table 13. The results for the ANOVA indicated a significant effect of trial number, Wilks’s $\Lambda = .97$, $F(2, 197) = 3.48$, $p = .03$, multivariate $\eta^2$ squared = .03. Pairwise comparisons between the trials indicated that the first trial was significantly different from the third trial, $t(198) = -2.64$, $p = .009$ (significant at alpha = .05 / 3 = .017), using Holm’s sequential Bonferroni procedure), but there was no significant difference between the first and second or second and third trials.

Two more within-subjects ANOVAS were conducted with the factor being the trial number (first, second, or third scenario) and the dependent variables being the attractiveness ratings and trustworthiness ratings. Neither analysis yielded significant
results, suggesting that there was no significant change in the attractiveness or trustworthiness ratings as a function of the three trials.
DISCUSSION

The current study was designed to examine physician-patient communication, and previous findings on the subject, in a controlled experiment. The analogue form of the current experiment, though it has limitations that will be discussed later, allowed for a great deal of experimental control over variables that cannot be studied in a naturalistic observation of physician-patient communications. The experiment was specifically designed to isolate the impact of physician verbal behavior in the context of physician gender, patient gender, and patients’ dispositional tendency to disclose.

Preliminary analysis of the participants’ views of the “physicians” in the analogue study indicated that the participants did perceive the experimental manipulations that were put in place. For example, they did rate the physicians in the self-disclosure condition as more “revealing” than the physicians in the other two categories. Analyses indicated that participants also correctly perceived the level of symptom focus (versus emotion focus) in the encounters and the level of physician control style (physician in control or paternalistic versus collaborative or egalitarian). These findings suggest that the analogue design used in this study, although limited in its realism, might be helpful to researchers who want to study specified effects in encounters which might be difficult or impossible to isolate when analyzing encounters between actual physicians and patients.

Preliminary analyses of potential covariates and ordering of scenarios indicated differences between the ways participants perceived the no problem scenario and the
other two scenarios (fatigue and diabetes). It appeared from these analyses that the relationships between likelihood of disclosure ratings and the potential covariates (importance and privacy ratings) were stronger in the no problem scenario than in the other two scenarios.

In future research, more robust comparison of the importance versus privacy of facts and their eventual disclosure could have significant implications for physician-patient communication. Szasz and Hollender (1956/1987) point out that communication regarding health care is based on the agreement between physician and patient on basic health-related “definitions,” such as, “Healing is ‘good’ and suffering is ‘bad’.” However, these definitions are often socially constructed and not objectively assigned. A patient’s views on the importance of a treatment relevant fact could be significantly different than the physician’s view of the same fact, based upon a difference in definition. For example, a patient might consider their habit of drinking two beers immediately before bedtime as irrelevant to their health care, as he or she might consider the alcohol use to be within normal limits and confined to the safety of the home. However, a physician treating this patient for gastroesophageal reflux disease (GERD) might consider this information to be very important. The physician would know that the alcohol and carbonation are likely to cause reflux in a person with other risk factors, as would lying flat in bed immediately after drinking. Judgment of fact importance in this case is related to medical knowledge. Future studies might show that patients who have more knowledge about factors that impact their health care are more likely to be able to provide their physicians with treatment relevant information. Physicians might also
choose to prepare their patients by explaining what information might be particularly important from the physicians’ perspective.

Results from the preliminary analysis also indicated that a participant’s self-disclosure tendency was significantly related to their likelihood of disclosure ratings. This finding indicates that a participant’s scores on the SDI, SCS, and DDI were related to their eventual likelihood of disclosure ratings. If a physician were able to know his or her patient’s self-disclosure tendency in advance, he or she might be able to predict how disclosing that patient might be. A physician might be particularly careful to use techniques that are likely to increase patient self-disclosure, such as patient-centered interviewing techniques, if he or she was working with a patient whose tendency was toward low self-disclosure.

Hypotheses 1 and 2 were based upon multiple research findings that suggested gender could significantly affect the amount of disclosure in interactions, both in general and specifically related to the medical encounter. For example, Dindia and Allen (1992) determined that in general interactions, women disclosed more to other women than did men disclosing to men or women disclosing to men, and men disclosing to women disclosed the least. Research on the physician-patient relationship suggested that female patients gave a greater quantity of responses to physicians and were more likely than men to express emotions (Hall et al., 1994; Stewart, 1983). Thus Hypothesis 2 predicted greatest likelihood of disclosure ratings in the female physician, female participant “patient” dyads, intermediate ratings of likelihood of disclosure in the mixed-gender dyads, and the lowest ratings of likelihood of disclosure in the male physician, male participant “patient” dyads. Hypothesis 2 was not supported by the findings of this study.
In the combined fatigue and diabetes scenarios, a significant main effect of participant “patient” gender indicated that women disclosed more than men in this study. This finding was consistent with the meta-analysis by Dindia and Allen (1992) which showed that women disclose more than men in general interactions. However, the lack of the predicted physician gender by participant “patient” gender interaction could be explained in part by the unique design of this study. Research into the interaction of physician and patient gender has generally observed the naturally-occurring interactions of physicians and patients in medical encounters. This observational research allowed physician gender to covary with gender-typed communication style. Thus the conclusion that female physicians were more successful in eliciting information from patients (Hall et al., 1994) could have been based upon the different ways in which female and male physicians tend to communicate. For example, studies have found that female physicians ask more questions than do male physicians (Roter et al., 2002) and display more affective behavior than do male physicians (Meeuwesen et al., 2002). The design of the current study mandated that the male and female physician communicate in exactly the same way. In fact, the male and female physician used exactly the same words to communicate. The findings of this study, therefore, reflect the difference in participants’ responses to a male and female voice when they communicate in exactly the same way. In this case, the level of experimental control permitted by the analogue design could have contributed to the lack of significant findings. Additionally, stripping the gender stereotypic nature of the communication from these analogue encounters might have somehow contributed to the lack of significant gender effects. Because the physicians communicated in exactly the same way, participants might not have perceived one of the
physicians to be communicating in a realistic way, or in a way that was congruent with both his or her position as physician and as a man or woman.

In additional findings related to gender, a nonsignificant trend in the no problem scenario suggested that women might disclose more than men in the presence of a feeling question. This finding is consistent with previously presented research suggesting women are more likely than men to express emotion in the medical encounter (Stewart, 1983). This finding might also have been affected by the design of the study because nine of the twelve facts in each scenario were intermediate or central in intimacy, according to Altman and Taylor (1973), and the facts were generally related to emotions rather than facts. If men were more likely to disclose factual information (superficial level of intimacy facts; Stewart, 1983), then the fewer facts of this type presented to them might have limited their likelihood of disclosing compared to women. Another nonsignificant trend suggested that in the presence of a symptom question, male physicians elicited more disclosure from women than from men, and for male patients, a female physician elicited more disclosure than a male physician. These results are not surprising based upon the previously discussed literature on gender and disclosure. In fact, because the no problem scenario did not reflect a situation in which the physician and patient were discussing a medical problem, this scenario might have been perceived to be closer conceptually to a general conversation between two people. This might explain the differences in gender findings between the no problem scenario and the combined fatigue and diabetes scenarios, but the literature on gender in general communication would predict greater effects than those seen here.
Hypothesis 3, which predicted higher ratings of likelihood of disclosure in participants who heard self-disclosing statements from the doctor, was partially based on reciprocity theory. Reciprocity theory suggests that people disclose in response to disclosures from others (e.g., Jourard, 1971; Altman & Taylor, 1973). Hypothesis 3 predicted that participants who were disclosed to (in the self-disclosure statement physician communication condition) would rate higher likelihood of disclosure to the physician. However, this hypothesis was not supported. In fact, participants in the self-disclosure condition did not rate significantly different likelihood of disclosure than did the participants in the other two groups. Thus, the results of the current study do not support reciprocity of self-disclosure in the medical encounter.

Reciprocity may not in fact occur in such a structured relationship as the physician-patient relationship or in such a controlled encounter as the medical visit. If reciprocity does occur in the medical encounter, there may be important reasons that it was not detected in the current study. First, the length of the interactions (around 1 minute for each scenario) might not have been long enough to induce reciprocity. Altman and Taylor (1973) suggest that social penetration processes in a role-bound relationship, like the physician-patient relationship, might progress slowly and result in an overall shallow depth of information shared, but they theorized that these relationships would still eventually increase in intimacy over time. Second, the reciprocity effect has been shown to reflect a similar amount of self-disclosure on a conversation-wide basis, rather than on a statement-by-statement level (Dindia & Allen, 1992). Because the “physicians” in this study only presented two self-disclosing sentences per scenario,
while participants had a choice to disclose 12 facts, perhaps the reciprocity effect was too small to be measured adequately here.

Hypothesis 3 was also based in part on research findings which relate patient-centered interviewing to positive patient outcomes. Patient-centered techniques are based upon open-ended questions and emotion-eliciting skills, and the feeling question statement type was designed to reflect one piece of this type of interview. In a result that partially supported Hypothesis 3, a significant main effect of physician statement type was found for likelihood of disclosure (in the fatigue and diabetes scenarios), in which the feeling question group rated higher likelihood of disclosure than did the symptom question group. The results of this study suggest that patient disclosure is positively affected by the use of feeling questions (rather than symptom questions), when the encounter is in regard to a medical issue. This finding provides support for patient-centered interviewing techniques and is consistent with previously published studies (e.g., Ong et al., 1995, 2000; Smith et al., 2000; Williams et al., 1998). It is important to note, however that this effect was only present in the fatigue and diabetes scenarios, and the same effect was not present in the no problem scenario.

Hypothesis 4 was based upon studies of the therapist-client relationship that suggested therapist self-disclosure could result in increased ratings of therapist attractiveness (e.g., Lundeen & Schuldt, 1989; Peca-Baker & Friedlander, 1987; VandCreek & Angstadt, 1985), but there might be a trade-off in which therapists who self-disclosed might be perceived as less trustworthy (e.g., Curtis, 1981; Merluzzi et al., 1978; Merluzzi and Merluzzi, 1981). In all three scenarios, attractiveness ratings were higher in the self-disclosure condition than they were in the symptom question condition.
However, contradictory to Hypothesis 4, expertness ratings were not impacted by the physician’s verbal behavior regardless of scenario. Though greater attractiveness ratings might seem to be a positive thing for physicians, the ramifications of higher attractiveness ratings have not yet been fully explored. Some research suggests that increased attractiveness might result in greater patient disclosure. Hall et al. (2002) found that patients’ ratings of their own health were correlated with their liking toward their doctors. The findings of Collins and Miller (1994) suggest that people do disclose more to people they like. This research implies that positive perceptions of the physician might predict increased disclosure from patients.

A related finding on attractiveness ratings and patient self-disclosure was found in the evaluation of Hypothesis 6. In response to the findings of Lundeen and Schuldt (1992), that indicated the relationship between therapist self-disclosure and patient self-disclosure was mediated by therapist attractiveness, it was predicted that attractiveness ratings would mediate the relationship between perceived physician disclosure and participant “patient” likelihood of disclosure ratings. In the no problem scenario, regression analysis did indicate that attractiveness rating predicted likelihood of disclosure ratings. In the combined fatigue and diabetes scenarios, perceived physician disclosure did significantly predict attractiveness ratings and attractiveness ratings did significantly predict likelihood of disclosure ratings. The apparent relationship, in the fatigue and diabetes scenarios, in which attractiveness mediated the relationship between physician and participant disclosure, was consistent with the findings of Lundeen and Schuldt (1992). Although this finding supported a comparison between psychotherapy research and the medical encounter in two scenarios, in a broader sense, the medical
encounter may be distinct enough from the psychotherapy encounter that some research findings from counseling do not generalize.

Hypothesis 5 predicted an analogous effect to that in Hypothesis 4. Hypothesis 5 predicted a tradeoff between expertness and attractiveness when the physician used a symptom question, in which expertness would increase and attractiveness decrease. As discussed above, expertness ratings were not affected by statement type, but the symptom group did report lower attractiveness ratings than did the self-disclosure group. This result does not support a tradeoff between attractiveness and expertness for the use of exclusively symptom-focused questions, but it does suggest that patients view a symptom-focused physician as less interpersonally attractive than one who self-discloses. The analysis of Hypothesis 5 again suggests that problem-centered or physician-centered styles, which are based upon diagnosis-focused questioning, may result in less positive views of the physician. However, as has been discussed above, the link between physician attractiveness and specific patient outcomes has not been established.

Hypothesis 7 predicted a related effect to that in Hypothesis 5, and an analogous one to the effect proposed in Hypothesis 6. Hypothesis 7 predicted that ratings of expertness would mediate the relationship between physician symptom focus and participant likelihood of disclosure. The regression analyses did indicate that, in the no problem scenario, expertness did significantly predict likelihood of disclosure and, in the combined fatigue and diabetes scenarios, physician focus (with higher ratings indicating more focus on patient emotions versus symptoms) did significantly predict participant likelihood of disclosure. In no scenario did expertness mediate the relationship between focus and disclosure. These results suggest that physician expertness may be a
significant factor in patient disclosure, but that physician focus on symptoms or emotions does not determine perceived physician expertness. Future studies in this area should evaluate factors that influence expertness ratings of physicians and continue to study the relationship between expertness and disclosure.

In addition to the analysis of the experimental hypotheses, an additional analysis suggested that expertness ratings improved over the three scenarios presented, regardless of the physician’s communication style or the order in which the scenarios were presented. This finding might suggest that patients see their physicians as more expert as they see the physicians interact with more and different problems, or simply that their opinion of a physician’s expertness increases with time.

While observed power was taken into account in the planning for this study, and 200 subjects was expected to be adequate (for a predicted power of .90), a larger sample size would have resulted in greater power for the testing of so many effects. When alpha levels were reduced to control Type I error over multiple tests, power was negatively impacted, and some results with a larger sample might have been statistically significant.

By using only the audio of the medical encounter, the current study eliminated the potentially very significant non-verbal aspects of the conversation. While this level of experimental control could be seen as a way of eliminating variability in the physicians’ communication, it could also have negatively impacted the results of the study. In their study examining the association between physician nonverbal behaviors and patient disclosure, Duggan and Parrott (2001) analyzed video tapes of real physician-patient encounters. The researchers found that the use of facial reinforcers (nodding and facial animation) was positively and significantly associated with patient disclosure. The lack
of nonverbal cues in these interactions might have artificially decreased likelihood of disclosure ratings.

Another significant limitation of the analogue study is the inability to study the encounter as an interaction. That is, because the physicians’ statements never varied, the patients’ disclosure had no impact on the encounter. A thorough understanding of physician-patient communication includes the recognition that this encounter is, in fact, an interaction between two active agents. Research in this area generally relegates patient behavior to the status of outcome variable in response to some physician behavior. The analogue design could be used in a similar way to measure the impact of patient verbal communication on physician communication and evaluation of the patient.

An important factor impacting the external validity of the study was the choice of participants. Although the students who participated in the study were reasonably representative of the university as a whole, they are not likely to be representative of the population of patients who interact with family physicians. It is unclear from this study to what extent their responses would generalize to the larger population, but this is an area to be explored in future studies.

In future studies, patients from cultural backgrounds more diverse than the students sampled here might show different tendencies for disclosure in a medical encounter. Communication style may be very important in interaction with patients from other cultures. First, minority cultures are largely collectivistic, while majority American culture may be described as egocentric or individualistic (Shweder & LeVine, 1984). Collectivists and individualists may be expected to communicate in different ways (Armstrong & Swartzman, 2001). Collectivistic individuals are likely to attend more to
contextual, or nonverbal, aspects of communication and express themselves indirectly, because these behaviors are seen as preserving harmonious relationships. Individualistic persons are likely to express themselves directly and devalue or ignore that which is not stated clearly. For example, a study of cultural differences in communication, an analysis of medical visits in Japan (collectivistic) and the United States (individualistic), indicated that Japanese visits included more silence and more backchannel responses from both physicians and patients than U.S. visits (Ohtaki, Ohtaki, & Fetters, 2003).

Cultural differences in communication preferences could have significant effects on the amount of information exchanged in a medical encounter, and future studies related to this one could study these factors. Another aspect of cultural communication differences that could be studied in an analogue is different norms for importance and privacy in other cultures. For example, if a patient conceals his or her symptoms because his or her culture endorses different norms for modesty than majority American culture and defines such information as private, the physician may not have the opportunity to treat the patient effectively.

In addition to the other demographic features of the current sample, the student sample also appeared to be a relatively healthy one, which might have significant impact upon their interactions with physicians. Only 23 of the participants (12%) reported that they had an (unspecified) “chronic medical condition.” In fact, the participants tended to see themselves as in good health ($M = 1.63$, $SD = .68$; scale from 1 (good health) to 6 (poor health) and reported a modal 2 visits to a physician in the past year. Relationships between generally healthy patients and their physicians could be significantly different from relationships between patients with chronic or serious illnesses and their physicians.
Not only would patients with serious or chronic medical conditions have more opportunities to interact with their physicians, but the stakes in those interactions would almost certainly be higher. Future studies could use the same methodology as this study used to examine the impact of physician statements on the disclosure of more experienced patients.

An advantage of the use of analogue studies to examine physician-patient communication that has not been previously discussed is the ethical ramifications of manipulating real interactions in medical encounters. If the physician’s attention to the affective components of the interaction are as important to patient treatment as Ben Sira (1980) hypothesized, then experimental manipulation of the physician’s communication in a naturalistic study might negatively impact an actual patient’s treatment. The use of an analogue design permits the study of various forms of communication without impacting the treatment of any real patients.

Though the artificial nature of this analogue study hurts its external validity, it is important to remember that even very artificial laboratory findings can result in important scientific discovery. Mook (1983) points out two aspects of the evaluation of external validity that are particularly applicable to this study. First, he asserts that research may demonstrate what can occur rather than what actually does occur, even if the context of the research makes generalizability unlikely. The findings of the current study demonstrate that manipulations of physician verbal behavior could impact patient disclosure, even if the analogue nature of the study prevents the generalization that physician verbal behavior routinely does impact patient disclosure. Secondly, Mook discusses that, in some cases, the heightened artificiality of the laboratory experiment
might actually lend more credence to an effect, as that effect occurred in spite of the artificial nature of the situation. Again, the finding of any effects within the completely artificial analogue encounter is somewhat remarkable and argues for further research that takes the complete set of variables presented here into account.
APPENDIX A

INFORMED CONSENT FORM

You are invited to participate in a study of physician-patient communication. We hope to learn how physician’s behaviors may affect their interactions with patients in medical visits. The full purpose of this study will be explained to you in the debriefing. You were selected as a possible participant in this study because you are enrolled in a psychology course here at Notre Dame.

If you decide to participate, we will provide you with a number of surveys and ask you to listen two three brief recordings of interactions between doctors and their patients. Then, we will ask you for your reactions to these recordings. We do not expect that these tasks will cause you any discomfort or present any risks for you. You will earn research credit for participation in this study, and you will also contribute to the body of knowledge about doctor-patient communication. The experiment will take less than one hour.

Information that is obtained from you in connection with this study will remain confidential. Your name will not be associated with your completed questionnaires at any time. Completed questionnaires will be stored in a secure location.

In exchange for your participation, you will receive one experimental credit. You will be provided with your experimental credit at the beginning of the session, so you may withdraw your participation at any time without penalty.
Your decision whether or not to participate will not prejudice your future relations with the University of Notre Dame or the Department of Psychology. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty.

If you have any questions, we expect you to ask us. You may contact us using the contact information given below. You will be given a copy of this form to keep.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU ARE LEAST 18 YEARS OF AGE AND HAVE DECIDED TO PARTICIPATE HAVING READ THE INFORMATION PROVIDED ABOVE.

Signature of Participant ________________________________ Date____________
Signature of Investigator ________________________________ Date _____________

Investigators: Cris Champion, M.A. (574-631-1904 or cchampio@nd.edu)
Thomas V. Merluzzi, Ph.D. (574-631-5623 or tmerluzz@nd.edu)

Department of Psychology, University of Notre Dame, 118 Haggar Hall
APPENDIX B

QUESTIONNAIRES AND MANIPULATION CHECKS

Self-Disclosure Inventory (Miller, Berg, & Archer, 1983)

Please indicate the degree to which you would be willing to disclose the following types of information (to a stranger). Rate your willingness to discuss this information on the following scale: 1- discuss not at all – 5 discuss fully and completely.

1. My personal habits
2. Things I have done which I feel guilty about.
3. Things I wouldn’t do in public.
4. My deepest feelings.
5. What I like and dislike about myself.
6. What is important to me in life.
7. What makes me the person I am.
8. My worst fears.
9. Things I have done which I am proud of.
10. My close relationships with other people.

Self-Concealment Scale (Larson & Chastain, 1990)

Please read each of the following items carefully. Indicate the extent to which you agree or disagree with each item according to the rating scale below: 1- strongly disagree – 5 – Strongly agree.

1. I have an important secret that I haven’t shared with anyone.
2. If I shared all my secrets with my friends, they’d like me less.
3. There are lots of things about me that I keep to myself.
4. Some of my secrets have really tormented me.
5. When something bad happens to me, I tend to keep it to myself.
6. I’m often afraid I’ll reveal something I don’t want to.
7. Telling a secret often backfires and I wish I hadn’t told it.
8. I have a secret that is so private I would lie if anybody asked me about it.
9. My secrets are too embarrassing to share with others.
10. I have negative thoughts about myself that I never share with anyone.

Distress Disclosure Inventory (Kahn & Hessling, 2001)

Please read each of the following items carefully. Indicate the extent to which you agree or disagree with each item according to the rating scale below: 1- strongly disagree – 5 – Strongly agree.

1. When I feel upset, I usually confide in my friends.
2. I prefer not to talk about my problems.
3. When something unpleasant happens to me, I often look for someone to talk to.
4. I typically don’t discuss things that upset me.
5. When I feel depressed or sad, I tend to keep those feelings to myself.
6. I try to find people to talk with about my problems.
7. When I am in a bad mood, I talk about it with my friends.
8. If I have a bad day, the last thing I want to do is talk about it.
9. I rarely look for people to talk with then I am having a problem.
10. When I’m distressed, I don’t tell anyone.
11. I usually seek out someone to talk with when I am in a bad mood.
12. I am willing to tell others my distressing thoughts.

Counselor Rating Form- Short version (Corrigan & Schmidt, 1983)

Please rate the doctor from this scenario on each of these qualities. (1-not very – 7 –very)

1. Friendly
2. Expert
3. Honest
4. Likeable
5. Experienced
6. Reliable
7. Sociable
8. Prepared
9. Sincere
10. Warm
11. Skillful
12. Trustworthy
Manipulation Checks for Analogue Study

Please circle only one number for each question below.

Do you think this physician is more concerned with

1  2  3  4  5  6
Physical symptoms  Patient emotions

Did you think the physician was

1  2  3  4  5  6
More revealing  More private

Is this physician’s style

1  2  3  4  5  6
Physician in control  Equal footing  Patient in control

Would you go to see this doctor yourself?

1  2  3  4  5  6
Very Likely  Very Unlikely

Would you recommend this doctor to a friend?

1  2  3  4  5  6
Very Likely  Very Unlikely

How similar was this patient to you?

1  2  3  4  5  6
Very Different  Very Similar

Demographics

Age

Gender

Race/ethnicity

Year in School (circle): Freshman  Sophomore  Junior  Senior  Other

Are there any physicians in your family?  Yes  No
Do you have any chronic medical conditions?  Yes    No

In general would you say you are in:

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How many times have you visited a medical doctor in the past year? ___________

In general, have your interactions with doctors been:

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If you were choosing a doctor, all other things being equal, how would you rank the following three qualities in your decision-making? Place a number “1” next to the most important quality for your doctor to have, a “2” next to the second most important quality, and a “3” next to the least important quality.

_____ Expert  _____ Likeable  _____ Trustworthy
Scenario 1

Anne/Adam graduated from Notre Dame last May, and has been working in Chicago. She/He doesn’t have any current physical complaints, she/he just wants to develop a relationship with a local doctor in the event that she/he gets sick. She/He chooses to see Dr. (Christopher/Christina) Armstrong because (he/she) is covered by Anne/Adam’s insurance and the doctor’s office is located near her/his place of work.

Here are some facts about Anne/Adam:

1. She/He just moved to Chicago.
2. She/He has never lived so far away from her/his family.
3. She/He really misses his/her family and worries about being away from them.
4. She/He has been at her/his job for about six months.
5. The first few months were very stressful.
6. The stress came from being on her/his own for the first time and feeling afraid that she/he wasn’t smart enough to do well at her/his job.
7. She/He attributes his/her good health to use of alternative medicine.
8. She/He meditates daily and takes herbal supplements.
9. She/He believes that most medical doctors don’t believe in the effectiveness of alternative medicine.
10. Her/His religious faith is very important to her/him.
11. She/He is most comfortable in relationships with people who also are religious.
12. She/He makes all major decisions after prayer and consulting with her/his parish priest.

Please indicate next to the statements above how private or personal you feel each statement is. Use the following scale 1 (not at all personal or private) to 6 (extremely personal or private)
Now, how important do you think it would be for Dr. Armstrong to know each of these facts in order to treat Anne/Adam? Use the following scale 1 (not at all important) to 6 (extremely important).

Listen to the following interview between Anne/Adam and Dr. Armstrong, try to picture yourself in Anne/Adam’s place.

Dr. Armstrong: Hello, Anne/Adam. I'm Dr. Armstrong. How are you doing today?
Anne/Adam: I’m fine, how are you?
D: I’m well. I see you’re coming in for your first appointment with me today. Did you have a doctor before?
A: Yes, but I just moved here, so I needed to change doctors.
D: Oh, okay. Where did you move from?
A: Well, I was at Notre Dame in South Bend for the past four years, but I'm originally from Seattle.
D: Seattle is a beautiful city, you must miss it. But I guess you got used to the Midwest in Indiana, huh?
A: Yeah, there didn't seem to be much to do in South Bend, though.
D: I think you'll find Chicago a little more exciting. So, was your doctor treating you for any chronic medical conditions?
A: Not really, just the flu and stuff like that.
D: Okay, then we'll get started with me asking you some questions to get information about your medical history and current situation, then we'll see where we need to go from there, okay?
A: Okay.

D: Great, let’s start with your general health. (Symptoms: Have you had any physical problems lately? Feelings: Are you feeling stressed about anything? Self-Disclosure Personal: I know when I’ve had big changes, like when I’ve moved to a new city, I didn’t feel quite as healthy for a little while afterward.)

A: Well, moving here was a pretty big change.

D: (Did you have any physical symptoms around the time you moved? / How were you feeling about moving? / I know Chicago was intimidating for me when I first moved here.)

In this interview, Anne/Adam has already disclosed one of the twelve facts above (Number 1: She/He just moved to Chicago). If you were in Anne/Adam’s place, please indicate how likely you would be to disclose each of the other facts using the following scale 1 (not at all likely to tell the doctor) to 6 (extremely likely that I would tell the doctor).

Scenario 2

Beth/Brad is a recent graduate of ND. She/He has been living and working in a new city for a few months now, and she/he has been having some problems lately that have been interfering with her/his work. This is why Human Resources at her/his company suggested that she/he should visit a doctor. She/He is seeing Dr. (Patricia/Patrick) Hamilton for the first time today.

Here are some facts about Beth/Brad.

1. She/He has been very fatigued lately.
2. Sometimes she/he doesn’t feel like getting out of bed in the morning.
3. She/He called in sick three days last week, but she/he wasn’t really sick. She/He just didn’t feel like going.
4. Beth/Brad enjoys playing tennis.
5. The last couple of times she/he did play tennis, she/he had to make her/himself go.
6. She/He has been avoiding calls from the people she/he usually plays tennis with.
7. She/He is concerned her/his fatigue might be interfering with her/his work.
8. She/He didn’t contribute much to an important project last week because she/he was so fatigued.
9. Her/His boss was really upset and reprimanded her/him in a meeting.
10. She/He thinks that if people’s symptoms are not explained by a physical illness, then it is “all in their heads.”
11. She/He fears that her/his fatigue is unrelated to a physical illness.
12. She/He has already decided that she/he would not take medicine that is prescribed to her/him if it is to treat a mental condition.

Please indicate next to the statements above how private or personal you feel each statement is. Use the following scale 1 (not at all personal or private) to 6 (extremely personal or private)

Now, how important do you think it would be for Dr. Hamilton to know each of these facts in order to treat Beth/Brad? Use the following scale 1 (not at all important) to 6 (extremely important).

Listen to the following interview between Beth/Brad and Dr. Hamilton, try to picture yourself in Beth/Brad’s place.

Dr. Hamilton: Hello, you must be Beth/Brad. I’m Dr. Hamilton. How are you today?
Beth/Brad: I’m fine, how are you?
D: I’m doing fine, but wow, it’s hot out there, isn’t it?
B: Yeah, I’m just getting used to the humidity.
D: I don’t know if anyone really gets used to it. (laughs) How long have you been in this area?
B: Well, I started working here a couple of months ago.

D: Really, what do you do?

B: I work in an accounting firm.

D: Okay, so you just moved here, and you’re coming in for your first appointment today?

B: Yes.

D: Oh, and I see that you have come in because you are experiencing some fatigue.

B: Yes.

D: Well, let’s start with me asking you some questions, then we’ll see what we need to do next. Okay?

B: Okay.

D: Fine, tell me more about your fatigue. (Symptoms: Are you having any other physical problems right now? Feelings: Are you feeling stressed about anything? Self-Disclosure Personal: I know there were some times in my residency training when I was just dead on my feet.)

B: I’ve just been feeling very tired lately, and I would like to know what is wrong with me.

D: (When do you usually feel this tiredness? / Are you feeling fearful about these symptoms? / I know when I’m not feeling well, I really want to know what’s going on.)

In this interview, Beth/Brad has already disclosed one of the twelve facts above (Number 1: She/He has been very tired lately). If you were in Beth/Brad’s place, please
indicate how likely you would be to disclose each of the other facts using the following scale 1 (not at all likely to tell the doctor) to 6 (extremely likely that I would tell the doctor).

Scenario 3

Cathy/Charlie graduated from Notre Dame in May, and she/he has just started working on a service project in a rural area of her home state. She/He had diabetes since she/he was a child, and she/he needs to develop a relationship with a local doctor to help her/him manage the disease. She/He chooses to see Dr. (Robert/Robert) McEwen based upon a referral from the doctor in her hometown.

Here are some facts about Cathy/Charlie:

1. She/He has type 1 diabetes.
2. She/He really struggled with her/his diabetes as a teenager and in college.
3. She/He sometimes feels angry and resentful that she/he has to be much more careful about her/his health than other people do.
4. Her/His service work is managing the after-school programs for a large rural school district.
5. She/He is feeling overwhelmed because she/he has many more responsibilities than she/he has ever had in a job before.
6. She/He sometimes works through meals and does not eat according to her diet plan.
7. She/He is living alone for the first time.
8. She/He feels pretty isolated and lonely in her/his new town.
9. She/He has found it hard not to snack and overeat when she/he is home alone in the evenings.
10. She/He has had some difficulty getting along with her/his coworkers because she/he is very different from them in age and family background.
11. She/He doesn’t want her/his coworkers to know that she/he has diabetes.
12. She/He hides her/his diabetes at work by not checking blood sugars in front of everyone in the cafeteria and not asking for special sugar-free foods.
Please indicate next to the statements above how private or personal you feel each statement is. Use the following scale 1 (not at all personal or private) to 6 (extremely personal or private)

How important do you think it would be for Dr. McEwen to know each of these facts in order to treat Cathy/Charlie? Use the following scale 1 (not at all important) to 6 (extremely important).

Listen to the following interview between Cathy/Charlie and Dr. McEwen, try to picture yourself in Cathy/Charlie’s place.

Dr. McEwen: Hello, Cathy/Charlie. I'm Dr. McEwen. How are you?
Cathy/Charlie: I'm fine, how are you?
D: I’m fine. I see you’re coming in for your first appointment with me today.
Why are you changing doctors?
C: Well, I just moved to town, so I need a new doctor.
D: Oh, okay. Did you have a doctor back home?
C: Yes, the same one from when I was a baby until I left for college.
D: He must have been a very good doctor for your family to stick with him that long.
C: Yeah, Dr. Cooke is a really nice person, too.
D: Was he treating you for anything specific?
C: I have type 1 diabetes.
D: Okay, then we'll get started with me asking you some questions, then we'll see where we need to go from there, okay?
C: Okay.
D: Let’s start with how things are going now. (Symptoms: How have your blood sugars been in the morning? Feelings: Are you feeling stressed about anything? Self-Disclosure Personal: I’m very close with my sister who developed diabetes as a child, and I remember how hard it was for her to get used to managing her illness.)

C: Well, my blood sugar has been harder to control these days.

D: (Have you been having any physical symptoms? / How are you feeling about that? / Having gone through it with my sister, I understand better as a physician how helpless diabetes can make a person feel at times.)

In this interview, Cathy/Charlie has already disclosed one of the twelve facts above (Number 1: She/He has type 1 diabetes.). If you were in Cathy/Charlie’s place, please indicate how likely you would be to disclose each of the other facts using the following scale 1(not at all likely to tell the doctor) to 6 (extremely likely that I would tell the doctor).
REFERENCES


