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**Physicians' verbal immediacy as a mediator of patients'
understanding and satisfaction**

Parrott, Roxanne Louise, Ph.D.

The University of Arizona, 1990

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PHYSICIANS' VERBAL IMMEDIACY AS A MEDIATOR OF PATIENTS'
UNDERSTANDING AND SATISFACTION

by

Roxanne Louise Parrott

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A Dissertation Submitted to the Faculty of the

DEPARTMENT OF COMMUNICATION

In Partial Fulfillment of the Requirements
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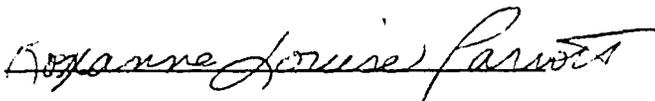
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ABSTRACT

This study examines specific speech forms that comprise physicians' language use, and motives for use. A coding system combining work on verbal immediacy and conversational involvement was used to assess the language of 19 physicians during 58 videotaped interactions with patients. Physicians were found to use more nonimmediate than immediate speech. Information-giving was positively related to use of nonimmediate speech. Use of implicit nonimmediacy was positively related to physicians' perceptions of the medical community's consensus regarding a patient's condition and recommendations for treatment. Experience was positively related to use of spatial nonimmediacy and automatic phrases. Gender and experience interact to predict use of temporal, implicit, and qualified nonimmediacy. Inexperienced males used the least of these forms of speech, while experienced males used the most. No relationship was found between use of nonimmediate speech and patients' understanding, satisfaction, or met expectations. Implicit nonimmediacy was directly related to patients' behavioral intent to comply. Findings are reviewed for implications to both Communication and Medicine.

CHAPTER 1

RATIONALE

More than two decades of cross-disciplinary investigations support the generalization that physicians' choice of language powerfully influences patients' understanding, expectations, and satisfaction (e.g., J. Burgoon, Pfau, Parrott, Birk, Coker, & M. Burgoon, 1987; M. Burgoon, Parrott, J. Burgoon, Birk, Pfau, & Coker, 1990; M. Burgoon, Parrott, J. Burgoon, Coker, Pfau, & Birk, 1990; Davis, 1966; Detmer, 1980; Frank, 1973; Hulka, Cassel, Kupper, & Burdette, 1976; Korsch, 1989; Kunze, 1982; Segall & Burnett, 1980; Smith, 1989). Lack of understanding, failure to meet expectations, and dissatisfaction with health care contribute to patients' predisposition to sue (Riffer, 1986), failure to pay medical bills (Blum, 1980), and noncompliance with treatments and regimens (Turner, 1987). These maladaptive outcomes have been found in clinical settings (Bertakis, 1977; Freemon, Negrete, Davis, & Korsch, 1971), private practices (Anderson & Helm, 1979; Turner, 1987), neighborhood health centers (Svarstad, 1976), and prepaid group plans (Wartman, Morlock, Malitz, & Palm, 1983). Pediatricians (Korsch & Aley, 1973), internists (Waitzkin, 1984), general practitioners (M. Burgoon, Parrott, J. Burgoon, Birk, et al., 1990),

oncologists (Silverman, 1987), and podiatrists (Lane, 1983) are among the physicians' groups demonstrating that negative medical outcomes relate to use of language by physicians. This investigation examines physicians' conversation with patients, extending previous study of medical interaction within a framework of communication theory and societal language norms to physicians' use of verbal immediacy.

Physicians' Language Use

The study of language use in communication examines specific speech forms that communicators use and the functions associated with use (Miller, 1973). When asked to select what verbal techniques they would use during conversation with patients, primary care physicians recently affirmed reliance on expertise strategies (M. Burgoon, Parrott, J. Burgoon, Birk, et al., 1990; M. Burgoon, Parrott, J. Burgoon, Coker, et al., 1990). The mean of physicians' reported use of positive expertise ("If you comply, you will be rewarded because of the nature of things") was 79 on a scale of 0 to 100. The mean reported use of negative expertise ("If you do not comply, you will be punished because of the nature of things") was 74 on a scale of 0 to 100. Use of verbal expertise strategies depends on a base of knowledge and expertise rather than a

personal appeal to try to change others' behavior. This distances a source from his or her message.

A second recent broadly-based investigation found that physicians in organized health care settings offer more appeals to institutional authority instead of taking personal responsibility for decisions (Silverman, 1987). Silverman examined 1200 physician-patient interactions obtained from a variety of out-patient settings and concluded that "consultations took on a bureaucratic format in which authority was claimed by an interchangeable medical team" (1987, p. 11). No attempts were made to indicate the frequency of occurrence of physicians' specific language behaviors. Nonetheless, this research and the Burgoon et al. (1990) findings suggest continuation of a pattern of communication reported in Bissonette and Seller's (1980) review ten years ago. Physicians depend upon appeals to rationality to gain patients' compliance.

Evidence of physicians' concern and interest in communication is readily available (e.g., Korsch, 1989). Yet, physicians continue to select, as in the Burgoon et al. (1990) study, and to demonstrate, as in Silverman's (1987) study, use of language that negatively relates to patients' outcomes. Two issues may explain this phenomenon. First, physicians may be unaware of what

specific speech forms they use in constructing appeals to expertise and authority, and so unable to change. Second, physicians' motives or purposes for selecting specific forms of language over others may be linked to societal norms and the physician's role but still lead to negative outcomes. Both issues are examined in this research.

Forms of Physicians' Language Use

The communication study of forms of language use examines all the conceivable ways that sentences could be constructed according to the rules of grammar (Miller, 1973). Several forms of language use attenuate a source's responsibility for a message. These have been conceptualized within the language construct of verbal immediacy. Wiener and Mehrabian (1968) define verbal immediacy as the degree of directness between a communicator and the object or events about which he or she is communicating. They observe that:

"Careful consideration will show that what appears to be the same thing (i.e., the same content) said with different words can be a basis for inferring quite different feelings or attitudes on the part of the speaker" (Wiener & Mehrabian, 1968, p. 2).

Word choice is bounded by context, with pronoun choice, verb tense, and words used to refer to the object of speech contributing to verbal immediacy.

Implicit Nonimmediacy

A source's choice of language that explicitly designates the subject and object of communication is defined as denotatively specific (Wiener & Mehrabian, 1968). Implicit or categorical expressions of agents, actions, or objects are nonimmediate.

As physicians sift and sort through patients' symptoms to diagnose illness and to prescribe treatment, expertise and technical dominance appear likely to lead to use of implicitly nonimmediate language. Silverman (1987) concludes that physicians seldom use democratic discourse based on "I," "we," and "you"; physicians employ purely clinical discourse of "I" and "we." The first "we" refers to the physician and the patient acting together, while the latter "we" refers to physicians as a class and is implicitly nonimmediate. When a physician says, "I recommend you" as opposed to "Doctors recommend patients," the former expresses a more immediate agent and object, and is denotatively specific. The latter uses a categorical class to express the agent and the object, and is implicitly nonimmediate.

Temporal and Spatial Nonimmediacy

Two further speech forms that make language more nonimmediate are use of inappropriate verb tense and indirect demonstratives (Wiener & Mehrabian, 1968). If a statement refers to the past or future, appropriate verb tense is past or future. If a communicator refers to the present with use of a future or past tense verb, the communication is temporally nonimmediate.

Demonstratives indicate the relationship between a communicator and the object of the communication. "This," "these," and "here" are spatially immediate forms of speech. Use of "that," "those," or "there" locates an event away from the source and/or listener, and is spatially nonimmediate.

Use of spatial and temporal indices of nonimmediacy, although not identified as such in previous studies of physicians' language use, characterize physicians' training. Levinson (1987), himself a physician, has written a guide to be used in teaching medical students to conduct a medical interview. Levinson advises students:

"Why questions that ask patients to account for their behavior should be avoided."

Levinson exemplifies the type of question to be avoided and offers a preferred construction:

"'Why didn't you take the medicine?'

"Better: 'Was there a problem in taking the medicine?'" (Levinson, p. 129)

In the second form, the patient who did not take the medicine has become a distally related part of "a problem." Use of "was" is temporally nonimmediate; use of "there" is spatially nonimmediate. Additionally, use of "a problem" and "the medicine" are both implicitly nonimmediate. The second statement distances the topic for discussion; the patient's specific behavior is "a problem" somehow related to "the medicine."

Qualifiers

Wiener and Mehrabian also include the use of qualifiers as a method of making a communicator's message less immediate (1968). Qualifiers express a communicator's uncertainty, and include use of phrases like, "it could be," "I think," and "I feel," as well as the selection of words such as "perhaps," "maybe," and "possibly."

Silverman's (1987) transcription of physicians' language use demonstrates physicians' use of qualifiers:

D: "Quite honestly, I think it's very unlikely that she's got anything fundamentally wrong with the heart at all." (p. 52)

D: "It seems to me that her catheter needs to

be repeated." (p. 80)

A more immediate construction of the first statement is, "It's unlikely she has anything wrong with her heart." The most immediate construction would be, "Her heart is fine." The second statement might be phrased more immediately as, "Her catheter needs to be repeated." Judging from these two examples, physicians choose qualifiers to reflect caution in making diagnostic evaluations and recommendations.

Automatic Phrasing

One final form of nonimmediate speech examined in this study is automatic phrasing. Wiener and Mehrabian (1968) define automatic phrasing as "the use of words such as 'just' or 'simply,' the introduction of automatic phrases ('you know'), and non-semantic sounds" (p. 46).

The words selected by Wiener and Mehrabian to illustrate automatic phrasing are similar to the codes used in Stiles, Putnam, Wolf, and James' (1979) study for the verbal response mode of acknowledgment. The grammatical form for acknowledgment is defined as, "non-lexical or contentless utterances; terms of address and salutation" (Stiles et al., 1979, p. 670). Use of "yeah," "well," "right," and "okay" are examples of words coded as forms of acknowledgment. Physicians used these words to reflect

their receipt of information or to check the information's accuracy (Stiles et al., 1979).

Silverman (1987) further illustrates the use of these forms of language by physicians:

D: "As you know he has a hole and the question is do we do anything?" (p. 65)

D: "I mean she's done really splendidly." (p. 73)

Lop off the opening phrases, and the statements become more immediate. However, as Stiles et al. (1979) conclude, these speech forms appear to relate to giving and to receiving information.

In sum, physicians' language use reflects membership in an expert group, training in a technical vocabulary, and responsibility for informing and guiding patients. An examination of the speech forms that comprise the language construct of verbal immediacy and physicians' conversation with patients leads to the hypothesis that:

H1: Physicians use more nonimmediate than immediate language during interaction with patients.

Functions of Physicians' Language Use

The communication study of the functions of language use includes investigations of the purposes and motives for use, as well as the outcomes associated with use (Miller, 1973). The functions of language use may be explained

within the framework of Expectancy Theory (M. Burgoon & Miller, 1985). Expectancy Theory asserts that people develop norms and expectations about language use (M. Burgoon & Miller, 1985). Societal expectations provide a motive for language choices and an explanation for outcomes associated with language use. Burgoon (1989) observes that language is a rule-governed system. As other language theorists proclaim, "Speaking a language is engaging in a (highly complex) rule-governed form of behavior" (Searle, 1969, p. 12).

Expectancy Theory is cast at the societal level where patterns of language that individuals respond to in a usual manner are generally not specified explicitly by the communication group but, as Wiener and Mehrabian (1968) assert, are "learned" informally. "Frequent confirmation helps to explain the maintenance of the norms and expectations" (M. Burgoon & Miller, 1985, p. 199).

The second proposition of Expectancy Theory claims that normative expectations are held by receivers with regard to fear arousing appeals, opinionated language, and language intensity (M. Burgoon & Miller, 1985). Burgoon and Miller (1985) observe that lexical diversity and verbal immediacy are two other language variables that "could benefit from additional studies to examine their

relationship with success at social influence" (p. 226). This study examines verbal immediacy to suggest what societal norms motivate use and how these relate to physicians' effectiveness in communicating with patients.

Motives For Physicians' Nonimmediate Language Use

Some research conducted to explain the use of nonimmediate language has demonstrated that when a source's attitudes are congruent with the spoken words, more immediate language expressions are used (Eiser & Ross, 1979; Hess & Gossett, 1974). Thus, in this society, speakers may informally learn that nonimmediate speech provides a way to cope with making a public statement that is inconsistent with private thought. Physicians use of nonimmediate language during interaction with patients might be conceptualized in terms of making public statements that are inconsistent with private thoughts or attitudes. Given the nature of medical interaction, however, inconsistency does not seem to adequately explain physicians' use of nonimmediate language.

Kuiken (1981) suggests that, "Perhaps nonimmediacy reflects apprehension about appearing certain, rather than uncertainty per se" (p. 195). Speakers in this society may informally learn to use nonimmediate speech to express apprehension about appearing certain. Physicians' use of

nonimmediate language seems more likely to relate to apprehension about appearing certain than to inconsistency between private thoughts and public expressions. Several variables are likely to motivate the use of more nonimmediate language by some physicians as compared to other physicians. These include the physicians' communication of information to and solicitation of information from patients. Also, the medical community's consensus regarding the patient's diagnosis and treatment, and the physician's experience in the role as health care provider may contribute to physicians' apprehension about appearing certain and nonimmediate language use.

Information-giving. Patients make and keep appointments with physicians because they are experts in health matters and expected to share that knowledge with patients (e.g., Barnlund, 1976). Giving and seeking information describes the very nature of physician-patient conversations. Thus, the societal expectation most likely to be associated with the role of being a physician is health care information-giving. The process of giving and seeking information is one method of reducing physicians' and patients' uncertainty about patients' conditions and treatments. Language choices that accompany physicians'

and patients' information exchange are normative in the setting.

At one end of the continuum of providing information is a physician who simply gives directives. Such a physician appears to expect the patient to "obey the doctor's orders." Giving directives may lead to use of a very immediate speech style. At the other end of the information continuum is a physician who gives more information than a patient wants or needs to understand a medical condition and adopt actions to achieve wellness. Stiles et al. (1979) found that physicians state objective information in the third person, often using categorical agents and/or objects, a less immediate form of speech. To provide clarification or elaboration to patients about illness, physicians appear likely to construct sentences that offer choices and/or conditions, frequently using qualifiers and/or automatic phrases.

With regard to information-seeking, Douglas (1990) observes that strangers are presumed to use question-asking as the most common way to reduce uncertainty during initial interactions. Douglas (1990) also observes that social norms limit the number and intimacy of information requests. Douglas (1990) concludes that, "initial

interactants are posited to invoke less direct strategies as well" (p. 68), the use of self-disclosure being one.

In physician-patient interaction, question-asking is a common method for the physician to seek information about the patient's condition. Patients undoubtedly expect physicians to ask questions, but norms of social appropriateness still function in the setting. Research in the health setting has demonstrated that receiving information positively relates to patients' satisfaction, while being asked for information negatively relates to satisfaction (Smith, Polis, & Hadac, 1981). Physicians seem likely, therefore, to practice less direct methods to seek information from patients.

One method of seeking information in a less direct fashion is to give information. A physician might ask the patient, "How are you feeling?" Or, the physician could begin conversation with, "It's been awhile since I've seen you. I see by your chart that your blood pressure was pretty high when the nurse took it. Maybe you've noticed some headaches lately." In a less direct fashion, the physician has disclosed some information and opened the door for the patient to describe how he or she has been feeling. Thus, information-seeking may lead to a type of disclosure that also involves information-giving.

Physicians who engage in more information exchange with patients may use more nonimmediate speech than physicians who give and/or seek less information from patients. This leads to the hypothesis that:

H2: There is a direct relationship between physicians' information-giving and physicians' nonimmediate language use.

Medical community's consensus. A physician's perception of the medical community's consensus or lack of consensus regarding a patient's condition and efficacy of treatment may also contribute to uncertainty and a physician's use of nonimmediate speech. Improvements in medicine have positively affected some medical outcomes such as infant mortality rates, but in other situations, health care has come under increasing scrutiny (Banta, 1986a). Often, technologies are able to deal only with symptoms rather than the disease, and physicians know this (Banta, 1986b).

Physicians' caution in making recommendations in situations of less medical consensus seems particularly likely to be expressed through the use of more qualifiers. Statements such as, "It is possible that the treatment will improve your condition" and "You may see some improvement in a couple of days, but it could be a week or more before

you start to feel any better" exemplify conversation between physicians and patients about treatment. Sherblom and VanRheenen (1984) found that more qualifiers are used to express the need for caution in taking a position.

On the other hand, when agreement among medical professionals is high, physicians seem likely to express this agreement with greater use of implicit nonimmediacy. Reference to the professional group, a categorical class, emphasizes the solidarity of opinion. For example, "We find that to be the best therapy for conditions like yours" or "Doctors recommend that medicine" emphasize the group's consensus regarding the recommendation.

The effect of medical consensus on nonimmediate speech demonstrates that dimensions of the language construct are, at times, likely to be affected differently by the same motive or purpose for use. This leads to the hypothesis that:

H3: A physician's perception of the medical community's consensus regarding a patient's diagnosis and treatment is inversely related to use of qualifiers and directly related to use of implicit nonimmediacy.

Experience. A physician's use of nonimmediate language during interaction with patients may also be

affected by the experience of the health care provider. Physicians who are more recent graduates of medical school are familiar with new techniques and technology but inexperienced as to making decisions about when to use them (Banta, 1986a). This lack of experience may translate to more immediate language use. An inexperienced physician does not have the repertoire of previous cases to draw upon as a reference point in clarifying or elaborating on a recommendation. Moreover, an inexperienced physician is unpracticed in constructing nonimmediate appeals to expertise or authority. Students may learn the indirect method of questioning patients during medical interview course as illustrated by Levinson (1987). The use of indirect methods of giving and seeking information during interaction with patients, however, may take practice. This leads to the hypothesis that:

H4: There is a direct relationship between physicians' experience and physicians' nonimmediate language use.

Information-giving, medical consensus, and experience all support the motive of apprehension about appearing certain for physicians' nonimmediate language use. Speakers in this society appear to learn to use nonimmediate forms of speech to reflect uncertainty. Thus,

physicians reflect informally learned rules of language use by adopting nonimmediate speech during interaction with patients as a reflection of physicians' uncertainty. Moreover, physicians' nonimmediate language use reflects fulfillment of societal expectations for the role of physicians as sources of health care information.

Another motive for use of nonimmediate speech has been identified in previous study. Kuiken (1981) and others (Feinberg, 1971; Mehrabian, 1964; Mehrabian & Wiener, 1966; Wagner & Pease, 1976) found that more nonimmediate language is used when conveying negative evaluations of self and others than when conveying positive evaluations of self and others. Such use seems to suggest, "don't take this personally," or, "let's separate this evaluation from our personal relationship." This function of nonimmediate speech may be summarized as saving face for self or other, and expending effort to avoid embarrassment (e.g., Goffman, 1967). Communicators in this society may also informally learn to use nonimmediate speech for this purpose. Such a motive seems likely to relate to others' perceptions of a source's caring and friendliness.

When a patient's behavior in a medical situation becomes a distally related part of "a problem," the physician and patient may be able to discuss the behavior

without the physician seeming to resort to direct criticism of the patient. The most direct speech, therefore, may also be the most face-threatening. Nonimmediate language may function as a way for physicians to save face for patients whose behavior is unhealthy and to engender impressions of physicians' caring and friendliness. In this society, a further expectation associated with a physician's role is the demonstration of warmth, empathy, friendliness and caring by physicians for their patients (e.g., J. Burgoon et al., 1987; Dutton et al., 1985; King & Peck, 1981). Thus, nonimmediate speech may again be a reflection of societal expectations associated with the physician's role. Previous study suggests that use of nonimmediate language as a face-saving strategy may be related to physicians' gender.

Physicians' gender. "It is clear from empirical research on language and gender that male and female communicators use language in ways that differ systematically" (Mulac, Incontro, & James, 1985, p. 1098). Researchers have long been interested in examining differences between males' and females' language use (e.g., Bradley, 1981; Burgoon & Stewart, 1975; Dubois & Crouch, 1983; Elgin, 1987; Newcombe & Arnkoff, 1979; O'Barr, 1982; Quina, Wingard, & Bates, 1987; Schaeff, 1981). Expectancy

Theory asserts that receivers' normative expectations about appropriate communication are gender specific, and that females are expected to use language that is more caring and friendly as compared to males (M. Burgoon & Miller, 1985). Given the face-saving motive for nonimmediate language use, females seem likely to use more nonimmediate language than males.

Early research (Lakoff, 1975) found that, more often than men, women used tag questions, the insertion of interrogatives at the end of statements (e.g., "it's a nice day today, don't you think"; "the debate was interesting, wasn't it"). These statements might be viewed as more nonimmediate as the speaker avoids responsibility by adding an automatic phrase in the form of a question. Lakoff (1975) also found that females used more hedges or qualifiers, and compound requests than males used. These studies support the claim that females use more nonimmediate language than do males.

Elgin (1987) prefers to refer to findings associated with women's language use within the framework of "subordinate" speech, rather than women's speech. She argues that "the distribution of subordinates and dominants by sexual gender is a part of the social system, not the language system" (p. 19). Yet, few would disagree with the

assertion that members of the medical profession are viewed as dominants in this society rather than subordinates (Freidson, 1970; Sheldon, 1986). Within Elgin's framework, physicians' use of nonimmediate language seems to reflect subordinate speech by a dominant group. Medical interaction poses a unique situation for gender and role expectations to act together to assert force on actors' language choices.

The simplest prediction of the effect for physicians' gender on language use suggests that female physicians use more nonimmediate language than do male physicians. Females in this society are expected to use language that is more friendly and caring than males use (e.g., M. Burgoon & Miller, 1985). Males in this society are expected to use language that is more powerful and dominant than females use (e.g., Elgin, 1987). Less experienced physicians, because they have more practice in fulfilling the expectations associated with language use and gender, appear likely to fulfill gender expectations for language use. Thus, inexperienced female physicians may use more nonimmediate language than inexperienced male physicians.

As physicians gain more experience in the role of health care provider, it has been argued that language use will become more nonimmediate. Experienced female

physicians, therefore, may use more nonimmediate speech than do inexperienced female physicians or inexperienced male physicians. Experienced male physicians, having gained more practice in fulfilling the role expectations, may reflect more nonimmediacy than inexperienced male or female physicians' but less than experienced female physicians' use. This leads to the hypothesis that:

H5: Physicians' gender and experience interact, such that inexperienced male physicians use the most immediate language; experienced females use the most nonimmediate language.

The societal expectation for physicians to be caring and friendly supports the purpose for nonimmediate language use associated with face-saving. Once more, communicators appear to informally learn this use of nonimmediate language. To consider the effects associated with physicians' nonimmediate language use, this study examines patients' understanding, satisfaction, met expectations, and behavioral intent to comply within the Expectancy Theory framework.

Outcomes of Physicians' Nonimmediate Language Use

Negative evaluations are often attributed to sources who use more nonimmediate language and positive evaluations to sources who use more immediate language. In fact,

Bradac, Bowers, and Courtright (1979) conclude that verbal immediacy is directly related to receivers' attributions of the positiveness of a source's affect, competence, and character (1979). Use of nonimmediate language has been found to negatively relate to perceivers' perceptions of a positive character, an outcome most speakers would probably disdain (Conville, 1975). Listeners have also been found to perceive speakers who select high levels of hesitation and hedging to be in a powerless condition (Bradac, Hemphill, & Tardy, 1981). Some researchers contend that more immediate language enhances feelings of trust between communicators (Donohue, Weider-Hatfield, Hamilton, & Diez, 1985), an outcome that speakers, especially physicians, desire.

Bradac and Mulac (1984) demonstrated that in some situations, however, use of more immediate and powerful language produces negative attributions, whereas a more nonimmediate or powerless style may signal empathy and friendliness. Newcombe and Arnkoff (1979) found that qualified speech was rated as warmer than unqualified speech. Moreover, some research has found that use of more immediate language is associated with perceptions of authoritativeness (Conville, 1975). Cantor (1979) found that the most immediate speech use was perceived as

coercive. Despite Bradac et al.'s claim, therefore, research examining outcomes associated with nonimmediate language use is not consistent in attributing negative character and competence ratings to sources who use nonimmediate speech.

To evaluate the outcomes associated with physicians' nonimmediate language use within an Expectancy Theory framework requires a comparison between societal expectations for appropriate language use and physicians' speech. Within Expectancy Theory, divergence from societal norms of expected language behavior is defined as a violation of expectations (M. Burgoon & Miller, 1985). Violations may be either positive or negative, affecting the outcomes associated with influence attempts. Positive violations of expectations occur when a source who is expected to use language that diverges from societal norms instead conforms to societal norms of behavior (M. Burgoon & Miller, 1985). For example, an anti-abortion speaker may be expected to appeal to an audience's emotions by using intense and graphic appeals that describe the abortion of a 16 week old fetus as murder. Instead, the speaker may develop a logical appeal with evidence to support the ability of a 16 week old fetus to sustain life and to develop outside the womb. A physician may be expected to

criticize a patient for failure to follow previous recommendations. Instead, the physician may use language that is caring, friendly, and informative, which conforms more closely than expected to societal expectations for physicians' communication. Such use, within the framework of Expectancy Theory, positively violates the patient's expectations.

Positive violations of expectations also occur when a source who is expected to use language in a normative fashion instead performs "better" than the societal norm, as when a public speaker delivers a particularly fluent speech (M. Burgoon, 1990). A physician may be expected to use language that is caring, friendly, and informative, and the physician may meet these expectations. The physician may also provide written instructions for the patient to follow, an unexpected and better than average performance in the setting. Positive violations of expectations facilitate persuasive outcomes (M. Burgoon, 1990; M. Burgoon & Miller, 1985). Previous research utilizing Expectancy Theory has demonstrated that "when receivers expect communication behaviour to affect them negatively and this expectations is disconfirmed by the sources, the resultant messages are persuasively effective" (M. Burgoon & Miller, 1985, p. 208).

Negative violations of expectations occur when a source who is expected to use language in a normative fashion instead uses language that is negatively evaluated (M, Burgoon & Miller, 1985). One example would be a public speaker's use of obscenity (Mulac, 1976). In the case of a physician, use of language that fails to reflect caring and concern, or competent information-giving has been shown to be negatively evaluated by patients (e.g., Korsch, 1989). Negative violations of expectations inhibit persuasive effectiveness (M. Burgoon & Miller, 1985).

To evaluate the validity of Expectancy Theory in predicting outcomes related to physicians' use of verbal immediacy, several issues are examined. In the changing environment of health care in the United States today, the value of physicians in enhancing medical outcomes related to interaction with patients may seem less important than the value of the media or social networks. As cogently argued by Charney, the interaction that a patient has with a physician provides an opportunity for specific communication about the individual's need to behave in a certain fashion,

"While many contemporary health problems may require large scale public health efforts, the practitioner continues to play an important role: behavior in

these matters is affected by so many varying factors that guidance from a personal physician is valuable in making therapy individualized and specific."

(Charney, 1972, p. 275)

Three important functions served by physicians' communication are patients' understanding, met expectations, and satisfaction. Although distinct, the three appear to be closely related in terms of how physicians' language affects them.

Patients' understanding, met expectations, and satisfaction.

A necessary but not sufficient condition for patients to follow physicians' recommendations is patients' understanding of what physicians want patients to do. Understanding may be defined as a patient's awareness of the medical problem, the cause of the problem, what to do about the condition, and what to expect as a result of following or failing to follow the physician's advice (Larsen & Smith, 1981). The medical community also asserts that the extent to which a patient's expectations from the doctor are met is an outcome that influences patients' satisfaction and compliance (Davis, 1968; Dutton, Gomby, & Fowles, 1985; Francis, Korsch, & Morris, 1969; Himmelhoch, 1980; King & Peck, 1981; Korsch & Aley, 1973; Korsch,

Freemon, & Negrete, 1971; Korsch, Gozzi, & Francis, 1968; Korsch & Negrete, 1972; Larsen & Rootman, 1976; Stimson, 1974). One further outcome consistently associated with physician-patient communication is the patient's satisfaction with the medical care visit. Satisfaction is an important factor in the patient's willingness to seek care from a physician (Comstock, Hooper, Goodwin, & Goodwin, 1982; Korsch et al., 1968; Larsen & Rootman, 1976; Ware & Davies, 1983). Meeting patients' expectations enhances satisfaction (e.g., Himmelhoch, 1980). Language use that meets societal expectations for physicians' information-giving, caring, and friendliness should increase understanding, meet expectations, and enhance patients' satisfaction.

Many studies have illustrated failure by patients to understand what they are to do in order to comply (Stone, 1979). More than two decades ago, Davis (1966) defined expected behaviors of the ideal physician. These include taking a patient's history, discussing present illness, giving a physical exam, presenting diagnosis and prescription, providing information and explanation, and giving a certain amount of reassurance. Several of these fulfill the function of helping patients to understand. Svarstad (1976) exemplifies physicians' failure to meet

this expectation. She found that physicians gave explicit, verbal advice about how long to take a drug in only 10% of the cases where drugs were prescribed. Moreover, physicians gave explicit instruction about how often to use the drug in only 17% of these cases (Svarstad, 1976).

Physicians often assume that recommendations are understood, using implicitly nonimmediate language that relies on a categorical class for the agent or object of action. Or, physicians construct statements in a temporally and spatially nonimmediate fashion, utilizing the opening phrase, "That was," which seems to place an event in the past tense. Greater use of implicitly, spatially, and temporally nonimmediate language may be negatively evaluated by patients who fail to understand physicians' advice. This may also explain the findings that patients often fail to comply with medication instructions (Bertakis, 1977), and are unaware of what physicians want them to do about one-third of the time (Hulka et al., 1976). Categorical expressions of agents, actions, or objects create an "I-It" relationship between a source and the object of the message (Buber, 1958; Korzybski, 1958). This use contributes to patients' feelings that they are categories of illness and symptoms rather than individual human beings (Barnlund, 1976).

Patients are less likely to comprehend physicians' communication as medical knowledge shifts away from a person-patient focus to a technology-entity emphasis (Jewson, 1976).

Previous research findings that associate the most immediate language use with perceptions of coercion (Cantor, 1979) and authoritativeness (Conville, 1975) are also important to consider when evaluating the use of implicit, temporal, and spatial nonimmediacy. Use of the most explicit, and temporally and spatially immediate speech by physicians may also be negatively evaluated by patients. Levinson's (1987) advice to physicians on how to avoid "why" questions and construct statements that avoid directly criticizing a patient suggests that very immediate speech may be face-threatening. Very immediate speech is likely to reduce understanding, fail to meet patients' expectations, and inhibit satisfaction. This leads to the hypothesis that:

H6: Patients' understanding, satisfaction, and met expectations show an inverted-U pattern in relation to physicians' use of implicit, temporal, and spatial nonimmediacy.

Failure to clarify medical instructions leads to a more immediate speech style that is particularly likely to

be associated with less use of qualifiers. This does not fulfill the physician's role expectations in helping patients to understand what is expected of them. Moreover, use of qualifiers provides yet another way to construct a negative evaluation of a patient's behavior in a less face-threatening fashion. A physician might say, "You should have also taken the medicine during day," or the physician could say, "Perhaps it wasn't possible to take the medicine during working hours because of side effects such as drowsiness."

Physicians' information-giving has also been found to relate to satisfaction (Comstock et al., 1982; Gozzi et al., 1969, Hardesty, 1988; Hulka et al., 1976; Lindsay, Wege, & Yates, 1984). Physicians' information-giving appears to be directly related to use of qualifiers. This leads to the hypothesis that:

H7: Physicians' use of qualifiers is directly related to patients' understanding, met expectations, and satisfaction.

Finally, physicians' use of automatic phrasing may reduce patients' opportunities to ask questions or express failure to understand. These opportunities are likely to increase understanding (e.g., Larsen & Smith, 1981). Providing such opportunities may meet patients'

expectations (e.g., Larsen & Rootman, 1976). The patient is expected to be more satisfied when provided the option of seeking and obtaining clarification where needed (Korsch et al., 1968). This leads to the hypothesis that:

H8: Physicians' use of automatic phrasing is inversely related to patients' understanding, met expectations, and satisfaction.

Patients' behavioral intent to comply. Although understanding is a necessary condition for compliance, it is often not the sufficient condition. Patients who are more satisfied with a medical visit do not necessarily comply more:

"In sum, satisfactory communication as reported by patients does not necessarily reflect effective communication about medication regimens. Nor does satisfaction with the visit per se imply that taking medication is given a high priority." (Wartman et al., 1983, p. 891).

In fulfilling societal expectations associated with being a physician, some would argue that providing patients with information is the physician's primary obligation (e.g., Eraker et al., 1984). What the patient does or does not do with the information is within the realm of a free choice. Others have argued, however, that physicians also

have an obligation to motivate patients to comply, and that language choices may function as motivators (e.g., M. Burgoon, Parrott, J. Burgoon, Birk, et al., 1990).

Patients' behavioral intentions have been found to relate to actual compliance such that patients who report that they intend to comply are more likely to actually comply (Seibold & Roper, 1979). Past research suggests that physicians' communication may have significant effects in shaping patients' behavioral intentions (Anderson, 1982; Bissonette & Sellar, 1980; Garnet, Davis, McKenney & Steiner, 1981; Glanz, Kirscht, & Rosenstock, 1981). Eraker et al. (1984) observed that a contingency contract, which demands that a physician and patient verbally specify a treatment goal, specific obligations of each party in attempting to accomplish the goal, and a time limit for the goal's achievement, increased compliance. Other similar approaches to shaping patients' behavioral intentions have also been positively related to actual compliance (Franzini & Grimes, 1980; Jeffrey, Thompson, & Wing, 1978; Maygar & Apostal, 1977; Molteni & Garske, 1983; Ribner, 1974). These efforts are spatially and temporally immediate without use of qualifiers or automatic phrasing, while at the same time making reference to the expertise of physicians as a group. They explicitly identify

physicians' and patients' behaviors and avoid qualification or inconsistency. Thus, language used to motivate and shape patients' behavioral intentions does not necessarily promote patients' understanding, satisfaction, and met expectations. For patients who expect physicians to motivate them to follow advice and care recommendations, however, failure to do so may be negatively evaluated. This leads to the following hypothesis:

H9: Patients' behavioral intent to comply is inversely related to physicians' use of spatial and temporal nonimmediacy, qualifiers, and automatic phrases but directly related to use of implicit nonimmediacy.

Overall, the present study presents a picture of physicians making language choices that are less verbally immediate and more verbally nonimmediate. The motives or purposes for these language choices may arise out of the roles of the participants and the very nature of medical interaction, as well as informally learned rules of language use in this society. An examination of these motives, particularly with regard to face-saving for patients, provides important insights into physicians' selection of nonimmediate forms of speech. The effects of nonimmediate language use in the health care setting may

demonstrate the significance of examining the effects of dimensions of verbal immediacy separately. This study may inform future research by affirming varied motives for use of some dimensions of verbal immediacy when compared to others. Similarly, the outcomes associated with use may differ. The picture of medical interaction is complex but may reflect societal norms and informally learned rules of language use.

CHAPTER 2

METHOD

Participants

The Family Practice Clinic at the University of Arizona agreed to allow the researcher access for the purpose of videotaping physician-patient interactions. The clinic is staffed by family practitioners, a specialty whose residency includes general adult medicine, general pediatrics, routine obstetrics, minor surgery, and even office psychiatry. Jonas and Rosenberg (1986) observe that Family practitioners differ from general practitioners, in that the latter lack formal postgraduate certification, making it uncertain whether any specific G.P. is adequately trained to provide primary-care services. Primary care may be defined as the provision of preventive and curative medical care, the coordination of services needed from other medical professionals, and the integration and explanation of a patient's overall health with attention to psychological and social needs (Jonas & Rosenberg, 1986).

Table 1 summarizes the patients' conditions that physicians discussed during interactions analyzed for this project. Broadly speaking, the interactional topics ranged from pregnancy and well child exams to possible cancer discovered during an elderly patient's routine check-up.

Table 1

Patients' Conditions		
Normal pregnancy (11)	Obesity (2)	Uterine growth (1)
Well child (6)	Back pain (2)	Mouth sores (1)
Elderly routine exam (5)	Headaches (2)	Fainting (1)
Skin rash/condition (4)	Cold (2)	Acne (1)
Post surgical exam (3)	Flu (1)	Hepatitis (1)
Underweight baby (3)	Colic (1)	Anemia (1)
Inflamed muscles (3)	Pinworms (1)	Leg cramps (1)
Vaginal infection (2)	Arthritis (1)	Insomnia (1)
	Diabetes (1)	

Differences in physicians' use of verbal nonimmediacy might be related to whether or not the patient was a child ($\underline{n} = 12$) or an adult ($\underline{n} = 46$), was being seen for more urgent (Today Clinic patients; $\underline{n} = 13$) or less urgent ($\underline{n} = 45$) problems as defined by the Clinic's procedures, or was being seen by a physician for the first time ($\underline{n} = 30$) versus a repeat visit ($\underline{n} = 28$). T-tests were used to compare physicians' language use between the two groups in each of these several conditions. The only significant difference in physicians' nonimmediate language use was found with patients' who had urgent versus non-urgent conditions, $\underline{t}(56) = 2.55$, $p < .05$ (see Table 2).

Table 2

Mean Values For Physicians' Use of Nonimmediate Language					
Patient's Visit		Patient's Condition		Patient's Age	
First	.79 (.23)	Urgent	1.02 (.21)	Adult	.89 (.26)
Return	.94 (.29)	Non-urgent	.82 (.26)	Child	.77 (.24)

Note: Standard deviations are given in parentheses.

Participants for the 58 interactions analyzed in this study included 19 physicians and 58 patients. The clinic is affiliated with a Medicaid health maintenance organization and a teaching hospital. Thus, many of the patients in this study undoubtedly select the clinic because it accepts their insurance, which for most of the clinic population is the state's HMO Medicaid plan. A recent census of health care organizations in the United States found that by 1984, 17 million people were enrolled in prepaid group plans similar to the site of study, with the estimate projected to reach 20% of the American population by 1993 (Thorpe, Thorpe, & Barhydt-Wezenaar, 1986). The study's sample may reflect this growing group of health care users.

The clinic's roster of medical staff included nine attending physicians (four volunteers), 24 house staff (the residents), and one nurse practitioner. The volunteer attending physicians are on contract for zero reimbursement. Physicians' involvement was obtained by: (1) the circulation of a memo from the Clinic Director to explain the project as one that would examine communication between physicians and patients, and to request participation; (2) attendance of the researcher at a clinic teaching day to broadly explain the nature of the project,

answer questions about the procedures, and to request participation; and (3) phone contact of physicians by the researcher on the day prior to videotaping. Patients' involvement was obtained by the staff nurses, who explained the nature of the project to a patient once he or she was in the examining room and who obtained written permission from each patient to be videotaped.

Procedures

Videotaping Assistance

For a two-week period, at the end of June and the beginning of July, 1989, a research assistant monitored the video equipment. The Family Practice Clinic has two wings, each of which has two adjacent examining rooms equipped with video cameras and microphones but only one video recorder for the equipment. A monthly schedule assigns physicians and nurses to the examining rooms. During a given three-hour clinic period, two examining rooms are assigned to each nurse and physician. This allows one patient to prepare to see a physician while the physician attends another patient. On any given day, therefore, four different physicians might be videotaped. On many days, a physician is scheduled for the morning and afternoon clinic, and occupies the same two examining rooms for the

entire day; so only two different physicians may actually have been available for videotaping.

Physician Sample

Each physician assigned to an examining room with a video camera was eligible for the study. Many expressed initial negative responses when asked to participate. However, when assured that the researcher had no request for them to change their usual interaction style, and that the nurses would be the ones soliciting patients' participation, 21 of the 25 different health professionals who were assigned to the rooms with cameras during the two-week period agreed to participate. Two males and two females, one resident and one attending physician of each gender, refused to participate, a 16% refusal rate. Two videotaped participants were excluded from the analysis, one, a nurse-practitioner, and the other, a physician whose interactions with patients were too inaudible for accurate analysis. Thus, the final physician sample consisted of 19 individuals, 10 females and 9 males. Of the 10 females, 8 were white, 1 Black, and 1 Hispanic; all 9 male physicians were white. Of the 19 physicians, 10 were postgraduate fellows whose residencies were completed or who were attending physicians (4 females), and 9 were residents (6 females).

Nurse Participation

During the two weeks of videotaping, copies of patients' permission forms and physicians' questionnaires were attached to the outside of patients' charts. A patient became eligible for the study once a nurse asked and received permission from the patient to be videotaped and to answer some questions in a follow-up interview. Nurses did not ask every patient to participate; nurses reported that sometimes they were too busy to take time to explain the project, sometimes they felt a patient was too ill to be bothered, and sometimes they simply forgot. This may have introduced a bias into the sample, but the evidence provided in Table 3 and throughout a discussion of the procedures used in this study suggests that the sample validly represents the population of patients in this clinic.

Appointments are of two general types at this clinic. Patients schedule an appointment for an urgent medical problem on the same day that they call or within three days, depending upon the urgency of the problem (University Physicians Incorporated, 1989). Patients' appointments for medical care of a less urgent nature take up to three weeks to schedule (University Physicians Incorporated, 1989). Only one of the seven (14%) assigned

physicians sees "Today Clinic" patients during a scheduled clinic period, indicating the average number of patients expected to need such appointments. The sample for this study included 13 "Today Clinic" patients, (16% of the videotaped sample).

Table 3

----- Clinic Population and Sample Statistics -----		
	Population	Sample
<u>Patients' Payment Method</u>		
AHCCCS	72%	54%
Medicare	10%	9%
Other	18%	37%
<u>Appointment Times in Minutes</u>		
Mean for Time Spent With Physician	20	16 (7)
Mean for Waiting to See Physician	45	56 (164)

Note: Standard deviations are in parentheses.

Patient Sample

Although eight nurses recruited 80 patients during the two week period, due to the Clinic's setup (one available video recorder for four cameras), 68 interactions were actually videotaped. Six of these were judged by the researcher to be too inaudible for accurate analysis; three were conducted in Spanish; and one was with a nurse-practitioner. The final sample, therefore, consisted of 58 interactions. These patients consisted of 15.7% with less than a high school education and 31.4% with a high

school education. Patients ranged in age from 17 to 82 years old; the median was 32.5. Patients' ethnicity included 24% Hispanic, 64% white, and 7% black. The sample was comprised of 54% with a household income of less than \$5,000 annual income, as would be expected in a clinic that participates in the state's HMO Medicaid program. Patients reported waiting to see the physician for up to two and a half hours (see Table 3); the mode was 10 minutes.

Videotaping Process

Recording began when the physician entered the room and did not take place during the periods of time when the physician was out of the room. The entire physician-patient interaction, including the physical examination, was recorded. Sometimes, if the patient requested or the physician felt that the examination was one that should not be recorded visually (as in the case of gynecological exams), a curtain was pulled around the patient and physician. Audio recording continued, however. The mean length of a recorded physician-patient interaction in this study was 16 minutes; the median was 15; the range was from 2 to 35 minutes. Clinic statistics show that average length of time spent with a physician during an appointment is 20 minutes (University Physicians Incorporated, 1989).

Post-Videotaping Process

Physician Participation

After an appointment in which the interaction was videotaped, the physician was asked to answer a brief survey. In 51 of 58 cases, the physician answered the survey, an 88% completion rate. Nonresponse bias is seldom considered a serious problem when 70% or more of a sample respond (Dillman, 1978; Fowler, 1988).

Patient Participation

Patients were also asked to participate in a phone survey of their understanding, intent to comply, satisfaction with the medical visit, met expectations, and general demographic items after the appointment. Interviews with patients were conducted the same day or within one week after the medical appointment to enhance patients' recall. A female interviewer received three hours of training consisting of discussion of the interview instrument, role-played phone interviews, and actual phone calls to volunteer graduate students. The assistant was trained to avoid leading respondents in any way, such as backchanneling, or saying "uh-huh" to a participant's answer. Up to 14 call-backs during daytime and nighttime hours were used to reach patients for interviews.

Eighty percent of the Clinic's patient population have telephones (University Physicians Incorporated, 1989); in this study, 16 of the 80 patients who agreed to be videotaped did not have phones, 20% of those who agreed to participate. Follow-up surveys were mailed to these patients; these included reference to University sponsorship and prepaid return envelopes for the surveys as recommended by Fox, Crask, and Kim (1988) to reduce nonresponse. Only two were returned. Between the phone and mail surveys, a total of 36 of the 58 videotaped patients completed follow-up interviews, a 62% completion rate. Dillman (1978) notes that a 60% response rate is generally adequate to make valid inferences to a population's characteristics. Given the evidence supporting this sample's representativeness of the Clinic population, the follow-up interviews are believed to validly represent the Clinic's patient population.

Reasons for failure to complete the follow-up interview included admittance to the hospital after an appointment, inability of the patient to respond to questions either because they seemed to understand very little English (although the interaction with the physician was in English) or, in several cases, inability to stay on topic due to age. Inaccurate addresses and non-working

phone numbers, as well as an inability to reach patients within a week following their appointments, also contributed to the response rate.

Ratings of Physicians' Verbal Immediacy
Transcripts Versus Coding From Videotapes

Verbatim transcription is a costly procedure that requires approximately 28 hours of labor per hour of videotape (Gottman, Markman, & Notarius, 1977). Increasingly, such constraints have been considered to place undue restriction on the ability of researchers to examine verbal behavior (see Markman & Notarius, 1987, for review). Numerous researchers from divergent disciplines have developed coding systems to be used in observation directly from videotapes. The marital interaction coding system (MICS), for example, has eight dimensions with 28 codes (Weiss & Summers, 1983). High reliability has been consistently demonstrated in studies that code interaction directly from the videotaped interactions, as reported by Weiss and Summers (1983), who found that the system had been used in 45 studies. Other researchers, too, conclude that verbal behavior may be coded directly from videotapes without significant loss of behavioral information (e.g., Wegener, Revenstorf, Hahlweg, & Schindler, 1979; Newton, 1989).

Coding directly from the videotapes allows a researcher to obtain not only a frequency estimate of the number of times a behavior is present compared to other behaviors, but also a frequency estimate of the duration of time spent behaving in the observed manner. Coding from videotapes was used in this study.

Coding Process

Markman and Notarius' review (1987) of the status of coding interaction outlines several decisions that must be made relating to the process of coding interactional data. Each is discussed as it relates to the present project.

The coding unit, data type, and sampling strategy.

Markman and Notarius note that:

"The units range from the smallest unit, the 'act,' defined as a simple grammatical sentence expressing a single idea, to the 'speech' or 'floor switch,' defined as everything spoken until another person starts to talk, to the 'idea' defined as all speech that makes up the presentation of a single idea, and finally, to the 'theme.' (1987, p. 336)

Size of the coding unit may affect the substantive conclusions reached, as well as reliability. Larger units demand more qualitative conclusions, requiring coders to synthesize interaction and apply global judgments and

inferences. This investigation used Wiener and Mehrabian's (1968) method of treating each verb as a point of division. As validated in previous studies using this decision rule, such division achieves the identification of units of speech. Simple sentences, independent clauses, dependent clauses, and physician speaking turns that lacked verbs were treated as units. Infinitives and participial phrases were not unitized. Thus, the physician's statement "I think so" was a unit; the statement "I think taking some time to think about it" was a unit; "I think so, but you think about it" was two units. "That medicine is used for acne" was also scored as one unit, as was "You are really asking me two questions."

A decision about data type addresses what boundary the researcher places between coding units. Two common data types are event data and time data; the coding units used in this study were event-based (as compared to a fixed time interval, which may rely on a coding unit of every 10 seconds, for example). The decision was also made to code data continuously rather than to select a sample of data from the physician's linguistic behavior. During pilot-testing of the coding method, it was discerned that sampling an initial two minutes, then sampling two minute intervals at several different points in an interaction

could yield substantially different results from coding the entire interaction.

Future study would benefit from adopting some a priori method of dividing physician-patient interactions into segments, which could then be sampled. For example, these might include history-taking and greeting, physical exam and diagnosis, recommendations and discussion, conclusion. Since the physician-patient interaction is comprised of distinct components, sampling in general from the entire interaction would misrepresent the content of the interaction, unless divided in some fashion. This investigation, however, concerned the overall picture of physicians' nonimmediate language use.

Unitizing process. The researcher and an assistant unitized the 58 interactions coded in this study. Training to unitize the videotapes took approximately 30 hours. First, unitization and the dimensions of verbal nonimmediacy to be coded were defined, together with a representative list of linguistic indices for each dimension. The researcher and an assistant practiced using print ads, transcripts of pediatrician-parent interaction unrelated to the present project (Parrott, M. Burgoon, & Ross, 1990), and videotaped marital interactions taken from Newton (1989) and unrelated to the present project.

Unintelligible remarks, inaudible comments, and talkovers were not unitized. It became apparent during this training period that the parameters for coding automatic phrasing had to be drawn more precisely.

In speaking, people use a lot of nonfluencies (e.g., "uh"; "um") and backchanneling (e.g., "uh-huh"; "ah") that are difficult to interpret contextually as observers. Nonfluencies were not being unitized; however, "hmm" and "uh-huh" were at first considered to be indices of automatic phrasing. The decision was made to not unitize "uh," "hm," or "uh-huh," even when they comprised a turn, because: (1) it gave an unrepresentative impression of the true nature of physicians' speech, both in terms of the number of spoken units, and the length of time of a spoken unit; (2) use of these expressions often arguably occurred as talkovers rather than actual distinct units of speech; and (3) it was not possible to interpret whether or not the physician was using the speech automatically. For example, physicians often offered patients opportunities to describe their medical condition. During the patient's description, the physician often read the patient's chart and said, "uh-huh" a lot. It was generally impossible to tell if the physician was more involved in the chart review or the conversation.

During the practice period, the researcher and assistant became familiar with several indices that people use in an automatic fashion. Wiener and Mehrabian's illustrate this dimension of verbal nonimmediacy with the phrases "you know" or "I mean." Other phrases and words found to be used in an automatic fashion included "really," "all right," and "so." Examples from this study's transcripts include:

"Really, the best thing you can do is just rest."

"All right, let's have a look at that baby."

"So, the pain has been coming and going for awhile."

In the first statement, use of the word really was not said in a more intense fashion but rather in an absent-minded, off-handed manner that would have been more immediate without the use of "really"; similar conclusions can be reached about the other two examples. Expressions that comprised clear units of speech rather than talkovers included, "yeah," "I see," and "right"; one physician particularly relied on "you bet." Again, use of these often occurred while physicians read patients' charts and patients talked. A pause in the patient's talk prompted the physician's automatic response, which, at times, was interpreted as involvement but often was not.

After the training period, the researcher and assistant began to independently unitize the actual interactions coded in this study. Each unitizer noted "start" and "stop" points of each unit of interaction, and also transcribed units on coding sheets designed for this purpose. The unitizing reliability between the two for the first interaction demonstrated agreement 88% of the time, using Guetzkow's formula (1950); disagreements existed on 11 units. The two discussed the differences, which generally involved use of infinitives and participles. Figure 1 provides an example of coders' disagreement during the unitizing process. In this case, the first unitizer had interpreted the use of "if," a preposition, as an infinitive. The second unitizer had interpreted the use of "thin" as an adjective rather than a verb.

Figure 1

Example 1 of a Unitizing Disagreement Between Coders

Coder 1: "Right now, if we tried to induce you, although we have a pretty strong chance of being successful,/ the baby's head can still drop down/ and the cervix thin out."/

Coder 2: "Right now, if we tried to induce you,/ although we have a pretty strong chance of being successful,/ the baby's head can still drop down and the cervix thin out."/

Resolution: "Right now, if we tried to induce you,/ although we have a pretty strong chance of being successful,/ the baby's head can still drop down/ and the cervix thin out."/

Three more interactions were independently unitized before again checking reliability, which increased to 94% agreement, indicating disagreement about 6% of the time. A new issue arose related to unitization of repetition and inference. See Figure 2 for an example. The second coder's interpretation was deemed the appropriate one.

Figure 2

Example 2 of a Unitizing Disagreement Between Coders

Coder 1: "Just one, / you had just one partner during those eight months? / And your partner?"/
Coder 2: "Just one, you had just one partner during those eight months? / And your partner?"/
Resolution: "Just one, you had just one partner during those eight months? / And your partner?"/

This example illustrates the conservatism of nonimmediacy estimates within this analysis. If the first unitizer's interpretation had been used, a count of three units of nonimmediacy could potentially have been scored rather than only two, as in the resolution.

A total of 6,575 physician units, which comprised 17 hours and 45 minutes of interaction, were unitized; the mean number of spoken physician units per interaction was 113.36; the median was 107.50; the range was 268, as one physician spoke a mere 15 units during interaction with the patient, and the greatest number of spoken units was 283.

The two unitizers independently unitized 16 interactions, which covered 305 minutes of interaction or 28.64% of the total interaction time, then checked for reliability, which remained at 94% agreement. The decision was made to split the rest of the interactions between the two unitizers. One independently unitized 310 more minutes, which covered 18 interactions. The second unitized 440 minutes, or 24 interactions.

One indicator that reliability remained consistent between the two is the coders' ability to code the unitized speech; the coders were told during training to apprise the researcher of any difficulties in interpreting what was to be coded. It was suggested that the possibility existed that more than a single unit of speech might be unitized as one unit, and that if that occurred, the researcher was to be informed. Coders reported a problem one time during the coding sessions; it was with regard to an interaction that both unitizers had coded. The physician was speaking rapidly and the speech was comprised of many units within several seconds. Thus, coders had a problem knowing where to begin and end their evaluations. Written transcripts were provided for coders' evaluation in this single instance.

Codes and dimensions. Once the unitizers had established high reliability, the actual coding of nonimmediacy began. As with the process of unitizing, the researcher trained verbal nonimmediacy coders. Six coders went through the same practice steps as the researcher and assistant went through in preparation for unitizing the videotaped physician-patient interactions. Coders practiced coding verbal nonimmediacy on unitized examples of American Cancer Society skin cancer brochures, unitized pediatrician-parent transcripts, and unitized marital interactions.

Coding process. "The most important tool necessary for the coding task is the catalog of interactional behaviors that will be judged, rated or scored" (Markman & Notarius, 1987, p. 334). The coding scheme used in this investigation was based on Wiener and Mehrabian's (1968) construct of verbal immediacy. Figure 3 summarizes the definitions used by coders in the present analysis. The spatial codes were the ones originally posited to represent this dimension of nonimmediacy by Wiener and Mehrabian. The temporal codes include Wiener and Mehrabian's conceptualization, plus the addition of codes used by other researchers to represent this dimension (e.g., Donohue et al., 1984). The implicit codes include Wiener and

Mehrabian's codes, plus the codes defined as cues of nonimmediacy during the training for this project. Codes for the qualified dimension of verbal nonimmediacy encompassed work on the use of powerful and powerless speech (Bradac & Mulac, 1984) and, also, interactional involvement (Cegala, Savage, Brunner, & Conrad, 1982). Those codes used to represent automatic phrasing were

Figure 3

Dimensions of Verbal Nonimmediacy Defined

- TEMPORAL: a present relationship between the subject and object is displaced to past or future.
- SPATIAL: a here relationship between the subject and object is made distant.
- IMPLICIT: a relationship between subject and object is indirectly stated; the subject is implicitly referred to or stated as a class of persons including the subject; and/or the object of the action is implicitly referred to or stated as a class of objects including the given object.
- QUALIFIED: a relationship between the subject and object is expressed with uncertainty.
- AUTOMATIC PHRASING: a relationship between the subject and object is expressed as though the subject experiences self as separate or different from the receiver and advances an implicit request to be sure that the communication is understood.
-

derived while unitizing and coding videotapes of interactions unrelated to the present investigation. Figure 4 lists the codes used by coders in the present analysis.

Figure 4

Linguistic Codes Representing Dimensions
of Verbal Nonimmediacy

TEMPORAL	SPATIAL	IMPLICIT	QUALIFIED	AUTOMATIC
verbs:				
past tense	that	no subject	I think	all right
future tense	those	no object	perhaps	I mean
let	there	it	possibly	I see
would	where	we (Doctors)	should	right
when		us (Doctors)	I guess	so
during		everything	usually	yeah
while		them	maybe	oh well
		patients*	probably	okay
		shots*	generally	you bet
		antibiotics*	could	you know
		medicine*	can	really
		doctors*	may	all right
			I wonder	
			I suspect	

*Specifically relevant to physician-patient interaction

Pairs of coders were instructed to make one pass through each interaction for each dimension of verbal nonimmediacy being coded. A coder advanced the videotape to the assigned event-based unit, which was keyed by time, listened to it, paused the videotape, and made a decision about the presence or absence of codes representing a

specific dimension of verbal nonimmediacy in that unit of conversation and the context of usage. The latter suggests why trained coders are advantageous over computer programs for analyses such as this one. The coder, as a speaker and user of the language, is able to make a decision about context that is beyond the capacity of the computer.

Data analysis. From the coding process, the researcher tallied two scores: the total number of times a behavior occurred (e.g., once, twice,...) and the total number of seconds a behavior occurred (e.g., 10 seconds, 20,...). These scores were converted to percentage data by dividing the number of times a behavior occurred (the number of nonimmediate units) by the total number of spoken physician units during an interaction (e.g., one occurrence in 15 units = .07 or 7%). The number of seconds that a behavior occurred was divided by the total number of seconds that a physician spoke during an interaction (20 seconds divided by 100 seconds = .20 or 20%). Two percentages were used as items to measure each dimension of nonimmediacy (see Table 4). Their intercorrelation is reported by interitem reliability. Implicit nonimmediate language use reflects only moderate interrater reliability although demonstrating very good interitem reliability, which indicates some caution should be exercised in

evaluating the results associated with implicit nonimmediacy.

Table 4

Interrater and Interitem Reliability Coefficients by Dimension of Verbal Nonimmediacy		
Verbal Nonimmediacy Dimension	Interitem Reliability	Interrater Reliability
SPATIAL	.95	.83
TEMPORAL	.95	.67
QUALIFIED	.95	.74
AUTOMATIC	.97	.83
IMPLICIT	.89	.56

Taken as a composite, the items representing the dimensions of nonimmediacy produced a coefficient alpha of .74; a coefficient alpha for the frequency of use composite was .71, while the coefficient alpha for the frequency of time composite was .73.

Physicians' Experience and the Medical Community's Consensus

For each physician who participated in the study, a measure of experience was obtained by asking the physician how many years he or she had been practicing medicine. Moreover, for each recorded interaction, the physicians used a 0 - 100 scale to rate their degree of confidence that other physicians would agree with their: (1) medical diagnosis and (2) treatment; coefficient alpha for this

measure was .85. A score of 100 indicated confidence that agreement among physicians would support the physician's diagnosis and/or treatment of a patient's symptoms. A score of 50 indicated that about half the time, physicians would agree in diagnosis and/or treatment of the patient's symptoms. Coders could select any score between 0 and 100 to represent the information given.

The mean response to the question regarding agreement by other physicians with the diagnosis was 90 (S.D. = 11.80); responses ranged from 40 to 100. The mean, median, and mode for the question about agreement concerning treatment recommendations was 90 (S.D. = 10.15); responses ranged from 50 to 100. There was very little variance in physicians' perceptions of consensus.

Physicians' Information-Giving

The 58 videotaped interactions were also content analyzed by the researcher and a research assistant. The two trained during three one-hour meetings, using physician-patient videotaped interactions unrelated to the present project (LePoire, 1989). The tapes were evaluated for the amount of information given by the physician to the patient regarding the following six issues: (1) what did the doctor say was the patient's medical problem; (2) what did the doctor say caused the problem; (3) what

instructions did the doctor give the patient about what to do to relieve the problem; (4) what suggestions did the doctor have for the patient to help him or her follow the instructions; (5) what did the doctor tell the patient to expect to happen if he or she followed the instructions; and (6) what did the doctor tell the patient to expect to happen if he or she failed to follow the instructions.

The decision-rule for the first two issues was the explicit statement of condition and cause. Thus, the fact that a patient came in for a pregnancy check-up and the physician never directly made a statement about the patient's status (e.g., "You're in your 35th week") was evaluated as giving no information about the condition. Similarly, if the physician made no reference to the patient's pregnancy "progressing normally probably partly because you take good care of yourself" or "you haven't gained too much weight" or something similar, the judgment was made that no information was given about the cause. The content analysts sought specific statements of guidance regarding treatments and regimens in response to the third and fourth question. The fifth and sixth issues were particularly difficult to find in physicians' conversations, but again, that was the decision-rule.

The six items were sub-divided into two topics, items measuring information about the patient's medical condition and items measuring information about reasons to comply. Interitem reliability on the four items measuring information given about medical condition produced a coefficient alpha of .76; on the two-item measure, coefficient alpha was .81. Interrater reliability for this process was only moderate; on the four items, reliability was .61, and on the two-item measure, reliability was .48, both indicating that caution be exercised in interpreting results associated with these measures, as coders were only moderately consistent in rating the behaviors.

Outcome Measures

Patient's understanding. Patients' understanding of physicians' communication was assessed in two ways. First, the patients' perceptions of understanding were collected by self-report, using six Likert-type statements regarding the respondents' agreement that they understood (1) what was their medical condition; (2) what caused the condition; (3) what to do about the condition; (4) what would help them follow the recommendations; (5) what to expect if the recommendations were followed; and (6) what to expect if the recommendations were not followed. Coefficient alpha for the six items was .77.

A second method of assessing the patient's understanding was also used. During the phone interview, the patient was asked in an open-ended free-response fashion (1) what the doctor said was the problem; (2) what the doctor said caused the problem; (3) what instructions the doctor gave to relieve the problem; (4) what suggestions the doctor had for helping the patient follow the instructions; (5) what the doctor told the patient to expect from following the instructions; and (6) what the doctor told the patient to expect if the patient did not follow the instructions.

The answers to the six questions recorded by the two content analysts directly from the videotapes were compared independently by each analyst to the patient's responses and the physician's actual conversation. A score was assigned to the patient's actual understanding, as previously done by Larsen and Smith (1981), on a scale of 0 to 100. Not remembered or not correctly answered received a 0; remembered everything correctly received a score of 100. Any number between 0 and 100 could be used to record a patient's understanding.

The measure was again split into two dimensions. Interrater reliability on the four-item dimension was .87; a coefficient alpha of .66 was obtained for interitem

reliability. The final two items produced an interrater reliability of .95; however, the interitem coefficient alpha was .08, so this two-item measure was not used in analysis.

Items were coded as 100 when the physician did not discuss either topic, and the patient reported that the physician did not discuss what to expect following compliance or noncompliance. Thus, the patient's understanding was perfect, but the physician had not actually dealt with these issues.

Patient's behavioral intentions. Seven Likert-type items adapted from Seibold and Roper (1979) were used to measure patients' behavioral intention to comply (see Figure 5). Patients stated their level of agreement with each statement, using a one to five scale (1 = strongly disagree; 5 = strongly agree). Coefficient alpha reliability was .66.

Patient's satisfaction. Seven Likert-type items from Linn and Greenfield's (1982) (see also Linn, Linn, & Stein, 1982) patient satisfaction scale, which was designed to measure satisfaction with the quality of health care received, were used to evaluate the concept in this study (see Figure 6). Coefficient alpha for reliability on this measure was .85.

Figure 5

Items Measuring Patients' Behavioral Intent to Comply

I plan to follow all of the doctor's advice.

I am unable to follow any of the doctor's advice right now.

Following the doctor's advice would give me confidence about my health.

Following the doctor's advice would disrupt my daily routine.

I am the kind of person who follows the doctor's advice.

I told the doctor that I would follow the advice.

Following the doctor's advice will cause me physical discomfort.

Figure 6

Items Measuring Patients' Satisfaction

The doctor seemed to have a genuine interest in me as a person.

The doctor did his or her very best to keep me from worrying.

The doctor was friendly to me.

The doctor took time to put me at ease.

The doctor made me feel comfortable talking to him or her.

The doctor did not take time to deal with some of the things that were bothering me.

The doctor seemed to be well trained.

Patient's expectations. Nine Likert-type items from a scale developed to measure patients' expectations (Parrott, 1990) were used to measure whether patients' expectations were met during the physician-patient interaction (see Figure 7). For each statement, agreement by the patient that the physician had so behaved indicated that the physician had performed as nearly all patients reported that they preferred physicians to behave. Coefficient alpha for this measure was .81.

Figure 7

Items Measuring Patients' Met Expectations

The doctor encouraged me to follow advice.

The doctor suggested ways I can keep from getting sick.

The doctor keeps up on the latest medical discoveries.

The doctor explained technical terms.

The doctor suggested other sources of information about my medical condition.

The doctor told me how following the recommendations would affect my ability to work.

The doctor used words I understood.

The doctor told me how long it would be before I would see results from following the advice.

The doctor answered all of my questions.

CHAPTER 3

RESULTS

Table 5 summarizes the findings for physicians' frequency and duration of use for each dimension of verbal nonimmediacy, together with a combined rating of use. The frequency and duration percentage scores were treated as individual items to measure each dimension of verbal nonimmediacy. In combination, the two scores form a two-item scale to represent each dimension. The frequency percent score indicates how often a type of nonimmediate speech was present to compare with the presence or absence of other types of nonimmediate speech. The duration percent score indicates how much time a physician spent using a type of nonimmediate speech to compare with time spent using other types of nonimmediate speech. The combined scores should provide a more valid and reliable representation of use of each type of nonimmediacy than frequency would by itself. The combined scores for the frequency of use of all five dimensions should provide a more valid and reliable representation of frequency of use of nonimmediacy than would a single frequency score. The combined scores for the duration of use of all five dimensions should provide a more valid and reliable

representation of time spent being nonimmediate than would a single score.

Table 5

Percentage Scores For Physicians' Frequency of Use and Duration of Use For Each Type of Verbal Nonimmediacy and a Combined Rating of Use

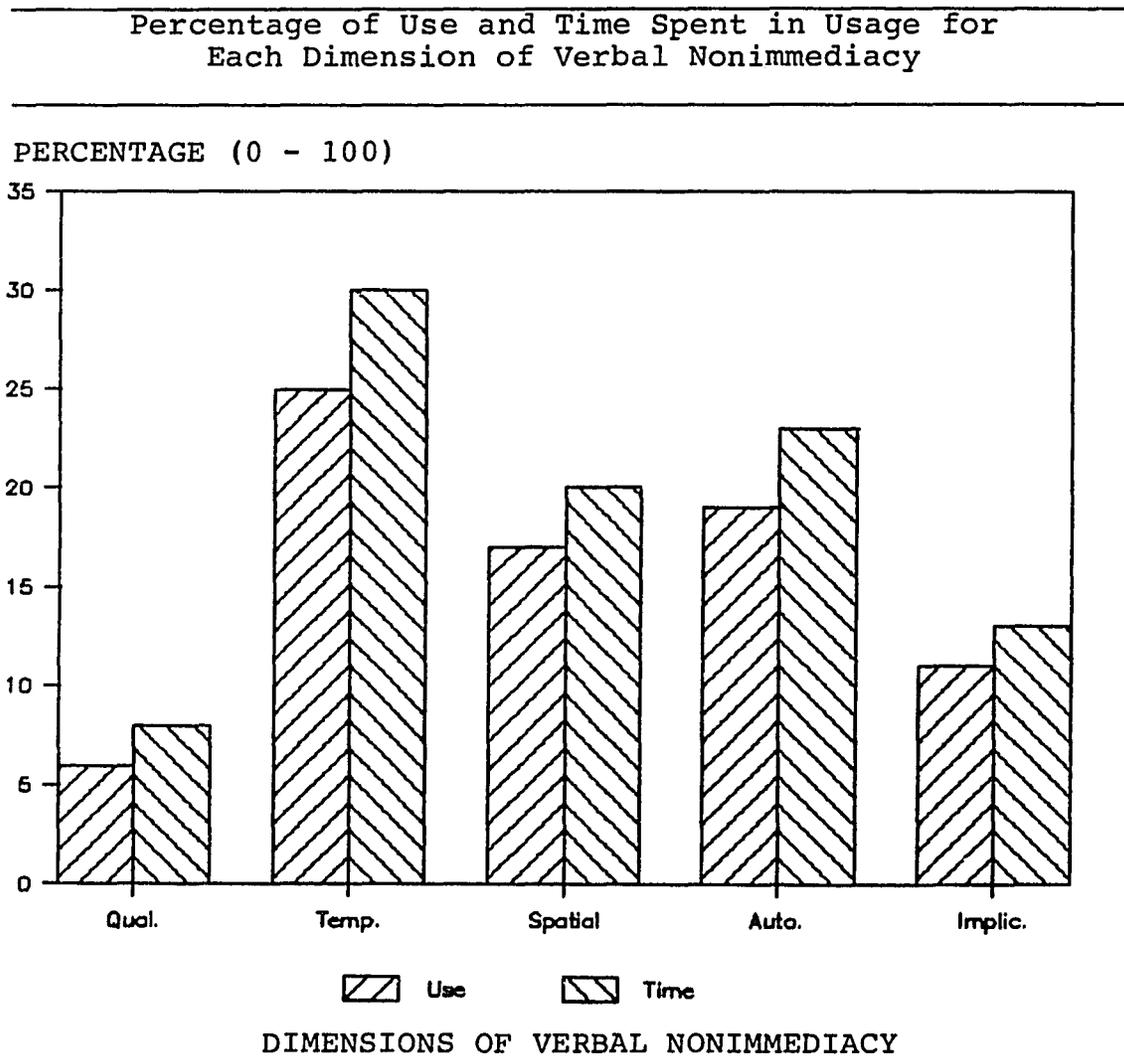
Type of Nonimmediacy	Usage	Time Spent in Usage	Combined Rating of Usage
Implicit	11% (5%)	13% (6%)	12% (5%)
Temporal	25% (9%)	27% (9%)	26% (10%)
Spatial	17% (6%)	20% (7%)	18% (6%)
Qualified	6% (4%)	8% (5%)	7% (4%)
Automatic phrasing	19% (8%)	23% (11%)	21% (10%)

Note: Standard deviations appear in parentheses.

On average, 25% of physicians' talk units were coded as temporally nonimmediate ($\underline{M} = 25\%$), and more than one-fourth of the time that physicians spoke, they used temporally nonimmediate speech ($\underline{M} = 27\%$). On average, only 6% of physicians' talk units were coded as qualified ($\underline{M} = 6\%$), and physicians spent less than one-tenth of their speaking time using qualified speech ($\underline{M} = 8\%$). One type of verbal nonimmediacy might have occurred less often than

other types but appear only in longer units of speech, summing to a smaller percentage of units of use but a greater percentage of time spent in use. Physicians' frequency percentages in the study sample, as depicted in Figure 8, were proportionate to the duration percentages.

Figure 8



Physician Talk Time

The total sum of seconds that a physician spoke during a single interaction was divided by the total number of units of physician speech in a given interaction (e.g., 600 seconds/300 units = 2 seconds per unit). These average units of speech ranged from 2 to 7 seconds, with a mean of 4 seconds and a median of 3.5 seconds. The number of physician talk units was positively related to total interaction time ($\underline{r} = .76$; $p < .001$) and to physician talk time ($\underline{r} = .73$; $p < .001$). Physician talk time was positively related to use of implicit ($\underline{r} = .36$; $p < .05$), temporal ($\underline{r} = .48$; $p < .001$), spatial ($\underline{r} = .33$; $p < .05$) and automatic ($\underline{r} = .24$; $p < .05$) nonimmediacy but not to use of qualifiers ($\underline{r} = .14$; $p < .20$).

Total Interaction Time

Total interaction time, which included not only physician talk time but also patient talk time and silent time when the physician was present in the room, was positively related to physicians' use of implicit ($\underline{r} = .26$; $p < .05$) and temporal nonimmediacy ($\underline{r} = .33$; $p < .05$). No significant relationships, however, were found between a longer interaction and use of spatial ($\underline{r} = .14$; $p < .20$), automatic ($\underline{r} = .07$; $p < .35$), or qualified ($\underline{r} = .01$; $p < .49$) nonimmediacy.

for the binomial test. More immediate speech use was defined as those interactions where physicians, on average, were rated as less than or equal to a 14% likelihood of exhibiting at least one nonimmediate speech form in each unit of language. More nonimmediate speech use was defined as those interactions where physicians, on average, were rated as more than 14% likely to exhibit at least one nonimmediate speech form in each unit of language.

Because previous research that examines use of nonimmediacy by communicators in this society does not indicate a normative population score for use, the decision was made to use fifty percent as the expected percentage of interactions ($n = 29$) to be in each group. It was found that 66% of the interactions ($n = 38$) were in the more nonimmediate language use group, $p < .03$. More physicians in this sample were found to use more nonimmediate than immediate language.

Predictors of Physicians' Verbal Nonimmediacy

Information-giving, medical consensus, and experience. The second hypothesis, which posited a direct relationship between information-giving and use of nonimmediate language was supported. Greater use of nonimmediate language, was associated with more information-giving about complying and failure to comply ($r = .33$, $p < .05$; corrected for

attenuation $\underline{r} = .57$). Greater use of nonimmediate language was also associated with more information-giving about the patient's medical condition, cause of condition, and ways to treat the condition ($\underline{r} = .22$, $p < .05$; corrected for attenuation $\underline{r} = .30$).

An examination of the individual dimensions of nonimmediacy (see Table 7) demonstrates that physicians use more implicit and spatial nonimmediacy when providing more information about compliance. Physicians use more implicit, spatial, and temporal nonimmediacy when providing more information about a patient's condition.

Table 7

Physicians' Information-Giving: Relationship to Use of Verbal Nonimmediacy		
	Compliance Information	Condition Information
Type of Nonimmediacy		
Implicit:	.35** (.43)	.25* (.31)
Spatial:	.34** (.20)	.22* (.26)
Temporal:	.17 (.19)	.23* (.27)
Qualified:	.19 (.22)	-.06 (-.07)
Automatic phrasing:	.19 (.21)	.05 (.06)

*: $p < .05$; **: $p < .01$

Note: \underline{r} corrected for attenuation appears in parentheses.

To obtain the variance accounted for in physicians' use of forms of nonimmediate speech by the combined effects of the two information-giving measures, multiple regression analyses were conducted. A significant model was obtained for the two information-giving measures as a predictor of spatial and implicit nonimmediacy. In both cases, the measure of information-giving about compliance entered ahead of information-giving about the medical condition. Table 8 summarizes these results. For spatial nonimmediacy, $F(2,55) = 3.94$, $p < .05$, R-square = .10. For implicit nonimmediacy, $F(2,55) = 4.19$, $p < .05$, R-square = .13.

Table 8

MULTIPLE REGRESSION OF PHYSICIANS' NONIMMEDIACY ON INFORMATION-GIVING				
Order of Entry of the Independent Variable	r	R-squared	b	F Ratio
<u>Spatial Nonimmediacy</u>				
Compliance Info	.34	--	.50	
Condition Info	.30	.10	.54	3.94*
<u>Implicit Nonimmediacy</u>				
Compliance Info	.35	--	.48	
Condition Info	.25	.13	.21	4.19*

* $p < .05$

With regard to information-giving, it was found that in 50% of the interactions, the physician made no reference to what would happen if the patient failed to follow

advice. In 48% of the cases, no mention was made about what to expect if the patient followed the advice. With regard to information about a patient's medical condition, in 30% of the cases, patients were not told the nature of their medical condition. Moreover, 63% of the time physicians did not discuss the cause of the condition. Recommendations were absent in 39% of the interactions. Suggestions to help a patient follow recommendations were not given in 67% of the cases.

The third hypothesis predicted that a physician's perception of the medical community's consensus about a patient's diagnosis and treatment is inversely related to use of qualifiers and directly related to use of implicit nonimmediacy. As summarized in Table 9, the hypothesis was supported for use of implicit nonimmediacy but failed to be supported for use of qualifiers. No other nonimmediate form of speech related to perceptions of consensus.

Table 9

Physicians' Perceptions of Consensus:
Relationship to Use of Verbal Nonimmediacy

Implicit	Spatial	Temporal	Automatic	Qualified
.25*	.17	.06	-.08	.04
(.29)	(.19)	(.07)	(-.09)	(.04)

*: $p < .05$;

Note: r corrected for attenuation appears in parentheses.

The fourth hypothesis predicted a direct relationship between physicians' experience and use of nonimmediate speech. This hypothesis was supported for the overall measure of nonimmediacy ($r = .22$, $p < .05$) and all of the separate dimensions of nonimmediacy (see Table 10). Findings associated with the fifth hypothesis, however, override the effect of experience for use of temporal, implicit, and qualified nonimmediacy.

Table 10

Physicians' Experience:
Relationship to Use of Verbal Nonimmediacy

Implicit	Spatial	Temporal	Automatic	Qualified
.45**	.36*	.31*	.28*	.39**

*: $p < .05$; ** $p < .001$

Physicians' gender and experience. The fifth hypothesis predicted that gender would interact with physicians' experience, such that inexperienced males would use the most immediate speech, whereas experienced females would use the most nonimmediate speech. The fifth hypothesis was tested by using multiple regression analyses with two independent variables, one continuous and one categorical (Pedhazur, 1982, p. 449-450). The hypothesis received some support. A significant interaction was found between physicians' gender and experience for physicians'

overall nonimmediacy, as well as use of implicit, temporal, and qualified nonimmediacy. In each case, the most immediate speech was used by inexperienced male physicians. Experienced male physicians, however, rather than experienced female physicians were found to use the most nonimmediate language, as well as the most implicit, temporal, and qualified nonimmediacy. The interactions were disordinal, overriding any main effects for gender and effects for experience on use of implicit, temporal, and qualified nonimmediacy. Table 11 includes the separate regression equations for all the findings related to this hypothesis. No significant interaction was found for physicians' gender and experience on use of spatial or automatic nonimmediacy. A significant main effect for experience on spatial and automatic nonimmediacy was found.

In the first regression analysis conducted to test this hypothesis, the overall measure of nonimmediacy was examined. The interaction term for gender and experience on use of overall nonimmediacy was significant, $F(1,56) = 15.91$, $p < .01$, adjusted R-square = .21. Thus, 21% of the variance in physicians' nonimmediate language use could be explained by the interaction of gender and experience. Separate regression equations were calculated for male and female physicians' use of nonimmediate language based on

experience (see Table 11). There was no main effect for gender, F -change(2,55) = 1.44, p = .23, R-square change = .02. A main effect was found for experience, F -change(3,54) = 5.17, p < .05, R-square change = .07. The overall model with the interaction, gender, and experience as variables predicting physicians' nonimmediate language use accounted for 27% of the variance, F (3,54) = 7.99, p < .001; adjusted R-square = .27.

The measure of physicians' use of spatial nonimmediacy was examined in relation to gender in combination with experience. The interaction term was not significant, F (1,56) = 3.33, p = .07; adjusted R-square = .04. A test of the common regression coefficient was significant, b = .02, t = 2.89, p < .01. However, the intercepts did not differ significantly, F (2,55) = 2.49, p = .09; R-squared = .02. A single regression equation was calculated for spatial immediacy and physicians' experience (x):

$$\text{Spatial immediacy: } .12 + .02x$$

The measure of physicians' use of temporal nonimmediacy was also examined in relation to gender in combination with experience. The interaction term was significant, F (1,56) = 8.28, p < .01; adjusted R-square = .11). Separate regression equations were calculated for male and female physicians' use of temporally nonimmediate

Table 11
Gender and Experience, and Physicians' Nonimmediacy

Nonimmediacy:

The overall regression equation is:

$$.63 - .06x_1 + .05x_2 + .03x_3$$

$$\text{Males} = .57 + .08x$$

$$\text{Females} = .69 + .02x$$

Point of intersection: 1.33 years of experience

Temporal Nonimmediacy:

The overall regression equation is:

$$.23 - .02x_1 + .01x_2 + .01x_3$$

$$\text{Males} = .21 + .02x$$

$$\text{Females} = .25$$

Point of intersection: 2 years of experience

Implicit Nonimmediacy:

The overall regression equation is:

$$.08 - .02x_1 + .01x_2 + .01x_3$$

$$\text{Males} = .06 + .02x$$

$$\text{Females} = .10$$

Point of intersection: 2 years of experience

Qualified Nonimmediacy:

The overall regression equation is:

$$.04 - .01x_1 + .01x_2 + .004x_3$$

$$\text{Males} = .03 + .014x$$

$$\text{Females} = .05 + .006x$$

Point of intersection: 2.5 years of experience

x1: coded vector for physicians' gender

x2: vector for physicians' experience

x3: vector for the product of gender and experience

x : physicians' experience

language based on experience (see Table 11). Gender did not contribute to the variance explained, F -change(2,55) = .59, p = .45; R-square change = .01. Nor did experience, F -change(3,54) = 1.24, p = .27, R-square change = .02. The overall model, including the interaction, gender, and experience, still accounted for 11% of the variance in use of temporal nonimmediacy, F (3,54) = 3.35, p < .05; adjusted R-square = .11.

The measure of physicians' use of implicit nonimmediacy was examined in relation to gender and experience. The interaction term for gender and experience on use was significant, F (1,56) = 24.21, p < .001; adjusted R-square = .29). Nearly one-third of the variance in physicians' implicit nonimmediacy could be explained by the interaction between gender and experience on use. Gender added nothing significant, F -change(2,55) = 1.76, p = .19; R-square change = .02. Experience also added nothing significant, F -change(3,54) = 3.18, p = .08, R-square change = .04. The overall regression model the interaction, gender, and experience accounted for 33% of the variance in physicians' implicit nonimmediacy, F (3,54) = 10.17, p < .001, adjusted R-square = .33. Separate regression equations were calculated for male and female physicians' implicit nonimmediacy (see Table 11).

The measure of physicians' use of qualified nonimmediacy was examined in relation to gender and experience. The interaction term for gender and experience on use was significant, $F(1,56) = 14.02, p < .01$; adjusted R-square = .19). Approximately one-fifth of the variance in physicians' use of qualifiers could be explained by the interaction between gender and experience on use. Gender added nothing significant, $F\text{-change}(2,55) = .17, p = .68$; R-square change = .00. Experience also contributed nothing significant, $F\text{-change}(3,54) = 3.69, p = .06$; R-square change = .05. The overall regression model accounted for 21% of the variance, $F(3,54) = 6.12, p = .001$, adjusted R-square = .21. Separate regression equations were calculated for male and female physicians' implicit nonimmediacy (see Table 11).

The measure of physicians' use of automatic phrasing was examined in relation to gender in combination with experience. The interaction term was not significant, $F(1,56) = 3.24, p = .07$; adjusted R-square = .04. A test of the common regression coefficient was significant, $b = .02, t = 2.19, p < .05$, R-square = .07. The intercepts did not differ significantly, $F(2,55) = 2.00, p = .14$, adjusted R-square = .03. A single regression equation was calculated:

Automatic nonimmediacy: .13 + .02x

In sum, the examination of physicians' language demonstrates that physicians select more nonimmediate than immediate language. This selection is related to information-giving, particularly with regard to use of implicit and spatial nonimmediacy to give information about compliance. Greater use of implicit, spatial, and temporal nonimmediacy related to giving more information about a patient's medical condition. Additionally, perceptions of the medical community's consensus were associated with increased use of implicit nonimmediacy. More experience also relates to an increased use of spatial and automatic nonimmediacy, but experience interacts with the physicians' gender to predict use of implicit, qualified, and temporal nonimmediacy. Female physicians were not found to increase their use of temporal and implicit nonimmediacy with more experience.

Patients' Outcomes Related to Physicians' Use of Verbal Nonimmediacy

To examine hypotheses six through nine, the dependent measures for patients' satisfaction, understanding, and met expectations were combined into a single dependent measure. This was due to their interrelatedness both in terms of measurement (see Table 12) and in the rationale advanced

for the effects of physicians' language use on these patients' outcomes. The combined scale produced a coefficient alpha of .85. Only 36 patients completed these measures, reducing the power associated with the statistical tests. To test the predictions, hierarchical regression analyses were conducted. The direct effects were entered at the first step of the analyses. Subsequently, nonorthogonal polynomials were created to test for the presence of quadratic trends in the data.

Table 12

Pearson Product Moment Correlation Coefficients Among
Patients' Dependent Measures

	Satisfaction	Expectations	Understanding
Satisfaction	--	.46**	.60**
Expectations		--	.60**

** : $p < .001$

Each dimension of nonimmediacy was multiplied by itself to produce a term to test the quadratic trend associated with that dimension of nonimmediacy (Pedhazur, 1982). The variable testing for a quadratic effect was entered at the second step of the analyses. The linear and quadratic effects represent the posited relationships. However, the analyses were carried one step further. To consider whether or not cubic trends existed, each dimension of nonimmediacy was multiplied by itself once again. These

variables were entered at the third and final step of the hierarchical regression analyses.

Patients' understanding, satisfaction, and met expectations. The sixth hypothesis predicted that patients' understanding, satisfaction, and met expectations would show an inverted-U pattern in relation to physicians' use of implicit, temporal, and spatial nonimmediacy. This hypothesis was not supported.

The direct effect for physicians' implicit nonimmediacy did not account for a significant portion of the variance in patients' understanding, satisfaction, and met expectations, $F(1,34) = .05$, $p = .82$. After removing the variance due to the direct effect, the quadratic effect for implicit nonimmediacy also did not account for a significant amount of variance in patients' understanding, satisfaction, and met expectations, $F\text{-change}(2,33) = .05$, $p = .82$. Nor was the cubic effect significant, $F\text{-change}(3,32) = .17$, $p = .67$.

The direct effect for physicians' temporal nonimmediacy did not account for a significant portion of the variance in patients' understanding, satisfaction, and met expectations, $F(1,34) = .07$, $p = .79$. After removing the variance due to the direct effect, the quadratic effect for temporal nonimmediacy also did not account for a

significant amount of variance in patients' understanding, satisfaction, and met expectations, F -change(2,33) = .11, p = .74. Nor was the cubic effect significant, F -change (3,32) = .51, p = .47.

The direct effect for physicians' spatial nonimmediacy did not account for a significant portion of the variance in patients' understanding, satisfaction, and met expectations, F (1,34) = 2.12, p = .15; R-square = .06. After removing the variance due to the direct effect, the quadratic effect for spatial nonimmediacy also did not account for a significant amount of variance in patients' understanding, satisfaction, and met expectations, F -change(2,33) = .85, p = .36; R-square change = .02. Nor was the cubic effect significant, F (3,32) = 2.54, p = .12.

The overall measure of patients' perceived understanding, satisfaction, and met expectations was directly related to physicians' perceptions of medical consensus regarding the patient's treatment and diagnosis, r = .36, p < .01, but not significantly related to physicians' compliance information-giving, r = .04 (p = .41), physicians' medical condition information-giving, r = .12 (p = .25), intent, r = .21 (p = .10), or actual understanding, r = -.12 (p = .27). Thus, patients do not always appear to have accurate perceptions of their own

understanding. Or, patients may give socially desirable responses to close-ended questions about understanding.

A similar lack of significant findings were found for physicians' use of nonimmediate language and patients' actual understanding as coded in this study. Actual understanding was based on several open-ended questions that some of the patients ($n = 4$) who answered the close-ended questions did not answer, further reducing the power of these tests. The direct effect for physicians' implicit nonimmediacy did not account for a significant portion of the variance in patients' actual understanding, $F(1,30) = 2.15$, $p = .15$; R-square = .07. After removing the variance due to the direct effect, the quadratic effect for implicit nonimmediacy also did not account for a significant amount of variance in patients' actual understanding, $F\text{-change}(2,29) = .07$, $p = .78$. Nor was the cubic effect significant, $F\text{-change}(3,28) = 2.11$, $p = .15$; R-square change = .07

The direct effect for physicians' temporal nonimmediacy did not account for a significant portion of the variance in patients' actual understanding, $F(1,30) = 1.54$, $p = .22$; R-square = .05. After removing the variance due to the direct effect, the quadratic effect for temporal nonimmediacy also did not account for a significant amount

of variance in patients' understanding, satisfaction, and met expectations, F -change(2,29) = .11, p = .71; R-square change = .03. The cubic effect was nonsignificant, F -change(3,28) = .56, p = .47; R-square change = .03.

The direct effect for physicians' spatial nonimmediacy did not account for a significant portion of the variance in patients' actual understanding, F (1,30) = 1.01, p = .32; R-square = .03). After removing the variance due to the direct effect, the quadratic effect for spatial nonimmediacy also did not account for a significant amount of variance in patients' understanding, satisfaction, and met expectations, F -change(2,33) = .95, p = .34; R-square change = .03. Nor was the cubic effect significant, F -change(3,32) = 2.48, p = .12; R-square change = .08.

The seventh hypothesis predicted a direct relationship between physicians' use of qualifiers and patients' understanding, met expectations, and satisfaction. This hypothesis also was not supported for the overall measure (r = .01, p = .47) F (1,34) = .10, p = .76, or for the measure of actual understanding, (r = -.12, p = .27) F (1,30) = .27, p = .60. The eighth hypothesis, predicting an inverse relationship between physicians' use of automatic phrasing and patients' understanding, met expectations, and satisfaction, failed to support the

posited relationship, $\underline{r} = .17$, $\underline{p} = .17$, for the overall measure, and the measure of actual understanding, $\underline{r} = -.10$, $\underline{p} = .30$.

The mean obtained for patients' actual understanding on a 0 to 100 scale was 35.42; the range was from 18 to 56. Zero-order correlations supported a positive correlation between actual understanding and information-giving about a patient's medical condition, $\underline{r} = .34$ ($\underline{p} < .05$) and compliance, $\underline{r} = .46$ ($\underline{p} < .01$).

Patients' behavioral intent to comply. The ninth hypothesis predicted that use of implicit nonimmediacy is directly related to patients' behavioral intent to comply, while automatic phrasing, and spatial, temporal, and qualified nonimmediacy are inversely related to behavioral intentions to comply. The prediction was supported for use of implicit nonimmediacy but failed to be supported for the other dimensions of nonimmediacy. Zero-order correlations were computed between intent to comply and dimensions of nonimmediacy, revealing that implicit nonimmediacy was positively related to behavioral intent, $\underline{r} = .43$, $\underline{p} < .01$; $F(1,31) = 6.99$, $\underline{p} = .01$, adjusted R-square = .16.

Automatic phrasing, $\underline{r} = .06$ ($\underline{p} = .37$), temporal, $\underline{r} = -.12$ ($\underline{p} = .25$), spatial, $\underline{r} = .03$ ($\underline{p} = .44$), and qualified nonimmediacy, $\underline{r} = .10$ ($\underline{p} = .29$) were not significantly

correlated with intent to comply. Nor was information-giving about medical condition, $r = .09$ ($p = .32$) or compliance, $r = -.02$ ($p = .36$), significantly correlated to intentions.

In sum, the outcomes associated with physicians' nonimmediate language use demonstrate no relationship between patients' understanding, satisfaction, and met expectations and nonimmediacy. Approximately 16% of the variance associated with patients' behavioral intentions to comply relates to physicians' use of implicit nonimmediacy. When physicians perceive greater consensus among the medical community regarding a patient's diagnosis and treatment, a patient is more satisfied, understands better, and feels that the physician better satisfied expectations. Physicians who perceive more consensus use more implicit nonimmediacy, the expression of a categorical class for the agent or object of communication. Use of this same dimension of nonimmediacy positively relates to patients' behavioral intentions to comply. Greater use is positively related to information-giving, which is positively related to actual understanding. Implications of this study may guide future research that examines the use of nonimmediate language in a direction that differs somewhat from studies conducted in the past.

CHAPTER 4

DISCUSSION

This investigation examined physicians' language use during interaction with patients and advanced hypotheses of two general types common in interaction analysis: hypotheses attributing the language use to differences among users and hypotheses associating users' language with dyadic outcomes (Emmert, 1989). Nine hypotheses were tested in the study. Physicians' use of more nonimmediate than immediate language was supported (H1) as was the direct relationship between use of nonimmediate speech by physicians and information-giving (H2). No support was found for an inverse relationship between use of qualifiers and perceptions of the medical community's consensus; a direct relationship between implicit nonimmediacy and such perceptions was supported (H3). The direct relationship between physicians' experience and use of nonimmediate language was supported for use of automatic phrases and spatial nonimmediacy (H4) but overridden by the interaction between gender and experience for use of implicit, temporal, and qualified nonimmediacy. Inexperienced males were found to use the most immediate speech, as predicted (H5), but experienced males used the most nonimmediate, failing to support the

prediction that experienced female physicians would use the most nonimmediate speech. No support was found for the posited inverted-U relationship between use of implicit, spatial, and temporal nonimmediacy to patients' understanding, satisfaction, and met expectations (H6). Nor was support found for the direct relationship posited between physicians' use of qualifiers and patients' understanding, satisfaction, and met expectations (H7) or the inverse relationship posited between use of automatic phrases and understanding, satisfaction, and met expectations (H8). Support was obtained for a direct relationship between use of implicit nonimmediacy and patients' behavioral intent to comply (H9) but failed to be obtained for an inverse relationship between spatial, temporal, or qualified nonimmediacy, or automatic phrasing and patients' behavioral intent to comply. The study's results are discussed by considering the implications of this research for communication scholars and the utility of findings for medical professionals.

The Study of Language in Communication

The use of language within this society has been argued to be rule-governed and role-bound by various disciplines and theorists. Within the field of communication, Expectancy Theory specifically purports to

explain outcomes associated with social influence attempts and language behavior. In casting its domain at the societal level, Expectancy Theory has not generally been utilized in communication situations where the interaction occurs one-to-one rather than one-to-many. However, language use in many one-to-one contexts is also rule-governed and rigidly role-bound, and might appropriately be explained by the propositional logic of Expectancy Theory. Physician-patient interaction is one such context.

Expectancy Theory has most often been tested by examining language behavior at a strategic message-level. Generally, investigations have not examined outcomes associated with language behavior in terms of the study of language as a system, discourse as a system, or conversation as structured and ordered activity. Previous investigations utilizing Expectancy Theory, therefore, have had little to say about language behavior as a practical social activity. This investigation makes a modest attempt to advance several conclusions and speculate about how language functions in conversation, specifically between physicians and patients, owing to societal norms and expectations about language use. Kreps (1989) argues that the medical context is an important

testing ground for the application of communication theory and will increase the external generalizability of communication knowledge:

"Perhaps most important for the communication discipline, health communication inquiry can also help legitimize the social value of communication research and education by demonstrating the practical applications of communication knowledge in improving the public's welfare and increasing the effectiveness of the health care system." (Kreps, p. 13, 1989)

Previous study within an Expectancy Theory framework has affirmed societal expectations for females' language use based on gender expectations associated with being caring and friendly. This study advanced the notion that physicians in this society are expected to provide patients with information, and to be friendly and caring. Just as females would be expected, therefore, to select language that promotes the fulfillment of societal expectations associated with gender, physicians would be expected to select language to fulfill the expectations associated with their role. According to Expectancy Theory, failure to do so would be a negative violation of expectations and should be associated with less persuasive effectiveness.

The primary hypothesis in this study posited that physicians use more nonimmediate than immediate speech. The rationale for this depends upon previous study that supports use of nonimmediate speech. Support for this hypothesis was attained and was vital to the examination of several subsequent issues, particularly with regard to purposes or motives for physicians' use of nonimmediate language.

Previous investigations of physicians' verbal communication have demonstrated that patients sometimes perceive physicians' language use to be object-oriented. The specific verbal behaviors that lead patients to these perceptions have been unidentified or attributed to the use of abstract and technical language. Language choices other than technical jargon, as developed in this study, may contribute to patients' perceptions of physicians' object-oriented language use. However, physicians' purposes for making these language selections may relate to societal expectations for the physicians' role, as posited with regard to information-giving and caring friendliness. A further motive may be the interaction of the physician's role with the physician's gender. These relationships were examined within the framework of societal norms for language use.

Information-Giving and Language Use

In addition to the differential speech patterns associated with various societal groups, language use is also likely to vary according to its function in the conversation. It was posited in the second hypothesis that more use of nonimmediate language may relate to more information-giving, one of the expectations associated with physicians. Positive relationships were found between physicians' use of spatial and implicit indices of nonimmediate language and giving more information about compliance and/or failure to comply. Thus, physicians appear likely to summon the umbrella of the group's expertise when conversing with patients about compliance and/or failure to comply.

Physicians also distance conversation about the patient's behavior from a personal focus to a more distant one; "Following that recommendation will likely result in improvement." Or, "Failure to follow those recommendations will likely produce more aggravated symptoms." The patient becomes an implicit receiver of the instruction from an implicit giver of the instruction. The instruction is "that" instead of "this" and "those" instead of "these." Such use may also fulfill the motive for caring friendliness likely to be associated with the

physician's role. This suggests a potentially positive effect associated with nonimmediate language use that has not been emphasized in previous study. Such language use may be less face-threatening than the use of a more immediate statement such as, "Your failure to comply will result in your own worse health."

Perhaps most interesting with regard to giving information is how seldom physicians did in this study. Patients, when asked about what the physicians said would happen if they followed the advice, most often responded that the physician said the patient would get better; and if they did not follow the advice, they would get worse. This was an implicit assumption by patients, for in half of the cases, the physician made no reference to what would happen if the patient failed to follow the advice or what to expect if the patient followed the advice.

With regard to telling a patient what his or her medical condition is, its cause, and the recommendations for treatment, as well as suggestions to help follow the recommendations, physicians use more temporal, spatial, and implicit indices of nonimmediacy when relating more information of this type. Thus, when giving information about these subjects, physicians tended to displace a present concern to the past or future, to talk about a

medical condition as if it were an object only distally related to the current scene, and to invoke use of the profession as the source of the information. Here, too, less information than might be expected was given, as in nearly one-third of the cases, patients were not told the nature of their medical condition; and almost two-thirds of the time, physicians did not discuss the cause of the condition. Still, when physicians did converse with patients about these topics, more nonimmediate speech was used.

Medical Consensus and Nonimmediate Language Use

Berger (1975) proposed that uncertainty may arise because a communicator has several ways of believing and behaving but must select one with a high degree of making accurate predictions. Moreover, as reviewed in this study, some investigators have suggested that uncertainty may be expressed through nonimmediate language use. In situations where the medical field has reached little consensus about the value of a treatment regimen, or several equal alternatives are available, it was posited that physicians' speech may manifest the uncertainty by greater use of qualifiers. In cases where the medical community is in agreement regarding diagnosis and

treatment, physicians might be expected to assert that agreement by more use of implicit nonimmediacy.

Within this sample, physicians' ratings of consensus did not demonstrate any significant association to indices of qualified nonimmediacy but did positively relate to use of implicit nonimmediacy. The relationship between greater medical consensus and use of implicit nonimmediacy illustrates how informally rules of language use lead to physicians' selection of nonimmediate speech. Implicit indices of nonimmediacy may attribute responsibility for the communication to a source other than the communicator, or to a group acting in concert rather than a single individual. Thus, physicians who feel that greater consensus exists among the medical community conveyed that through the use of implicit nonimmediacy.

Gender and Experience as Predictors of Physicians'

Language Use

Two further variables were examined as contributors to physicians' selection of nonimmediate speech. One often used to predict differences between communicators is the gender of the message source. The present investigation provided a new context for examining gender-specific language behavior. Second, it was posited that in many communication transactions where the roles

are strictly defined, language use is likely to be more immediate than nonimmediate when participants are inexperienced and unsure of their role.

Language use might well become more nonimmediate as the participants become more experienced in any role and better able to elaborate, go off the normative conversational topic, and adopt other verbal behaviors linked with nonimmediate language use. When conversing about one's area of expertise, therefore, speech may become somewhat more nonimmediate than is normative without reflecting any negative evaluations of the listener. The finding that experienced physicians used more spatial and automatic nonimmediacy supports this.

This study provided an opportunity to examine gender and role expectations for language use acting together to exert force upon an actor's language choices. It was found that inexperienced male physicians use the least qualified, implicit, and temporal nonimmediacy. This seems to reflect societal norms for males, and additionally, to reflect the lack of time these physicians have had to adapt to language use associated with the role expectations.

O'Barr (1982) suggests that persons in positions of power may adopt more powerless, nonimmediate speech in

order to engender impressions of empathy in others. Although relational messages were not examined in this study, future study should determine whether nonimmediate language use by experienced male physicians is associated with messages of conversational involvement or messages of dominance. Experienced male physicians may actually appear more dominant by using more nonimmediate speech.

Additionally, the finding that females vary little in their selection of implicit, temporal, and qualified nonimmediacy may reflect females' socialization in the use of language that is caring and friendly. Thus, females may find less need to change their speech patterns to fit the role expectations.

For the first five hypotheses in this study, all 58 interactions and more than 6,500 units of speech were involved in the statistical examination of the posited relationships. The final predictions regarding the effects associated with nonimmediate language use have low statistical power associated with them. Relationships had to be extremely strong to emerge in this situation.

Patients' Understanding, Satisfaction, and Met Expectations

The sixth hypothesis predicted that physicians' spatial, temporal, and implicit nonimmediacy would form an

inverted-U pattern in relation to patients' perceived understanding, satisfaction, and met expectations (USE). and to patients' actual understanding. These forms of nonimmediate speech appear to be most closely related to a physician's ability to discuss a patient's condition as a distally related "problem." Because nonimmediate language use has often been found to be associated with listeners' negative evaluations of sources, the greatest use of these was expected to reduce USE. The least use, however, has sometimes been associated with perceptions of authoritativeness or coercion. Also, the least use does not seem likely to fulfill the functions of language use associated with meeting societal expectations for physicians to give information and to display caring friendliness.

The lack of findings associated with this hypothesis may indicate that physicians have a wide latitude of acceptability in using nonimmediate speech to fulfill role expectations before patients' negative evaluations affect USE. Patients in this study may have given socially desirable responses to the questions, because most of them were poor and, perhaps, unlikely to give negative evaluations of care. Moreover, the low statistical power of the tests contributed to the outcomes. Despite these

factors, it was found that patients' USE had a positive relationship to physicians' perceptions of the medical community's consensus. Patients' actual understanding had a positive relationship to physicians' information-giving. To express greater consensus, physicians used more implicit nonimmediacy. To give more information, physicians used more implicit, spatial, and temporal nonimmediacy. These findings suggest that physicians' nonimmediate language use contributes to physicians' ability to fulfill their role expectations.

The seventh hypothesis predicted a direct relationship between physicians' use of qualifiers and USE as a linguistic method of fulfilling the role obligation to give and to clarify information and instruction. Here, too, the lack of support may be due to the underpowered tests. Physicians seldom selected this form of speech. If physicians had given more information, they may have elected to use more qualifiers and enhanced USE. Future research should experimentally test the issue of physicians' qualification and patients' USE.

The eighth hypothesis predicted an inverse relationship between use of automatic phrasing and USE, since this dimension of nonimmediacy may reduce opportunities to ask for information and clarification.

Again, the absence of findings may relate to statistical power or to the insignificance of this form of nonimmediacy.

Patients' Behavioral Intentions to Comply

The last hypothesis predicted that spatial, temporal, qualified, and automatic nonimmediacy would be inversely related to patients' behavioral intent to comply, while implicit nonimmediacy would be directly related to patients' behavioral intentions to comply. To fulfill the societal expectations associated with giving information and demonstrating caring friendliness, physicians' language use may be nonimmediate. To assert the importance of compliance, however, physicians' language use may be more direct, as suggested in some previous research, and make greater reference to the authority of the profession.

The only relationship between patients' behavioral intentions and nonimmediacy was a positive correlation between implicit nonimmediacy and behavioral intentions. This may reflect the fact that reference to the group whose expertise the patient has sought help from has some effect on forming patients' intentions to follow through with the recommendations given by a specific member of the professional group.

In sum, the construct of verbal immediacy has generally been treated as a unidimensional phenomenon. Findings relating to use of more immediate speech have been generalized to be the more positive ones. This research supports the conclusion that the dimensions of verbal immediacy should be examined separately, as each may be used for different reasons by a source and have varied effects on outcomes. Also, greater use of some types of nonimmediate language may best serve the communicator's function without negative affects on listeners.

Communication and Medicine

In the study setting, patients had little education and often were members of the State's Medicaid HMO, a highly homogeneous sample. This study's findings, therefore, represent a growing segment of the United States' health care system and should be evaluated in that light. The utility of the present investigation for practicing physicians is at least threefold. It describes physicians' behavior, which should have some practical application even if physicians are not interested in the theoretical framework advanced to explain the behavior. Second, the study suggests how patients' outcomes relate to physicians' language choices, which should also be

pragmatic knowledge. Third, the investigation demonstrates why an examination of the interaction taking place between physicians and patients continues to be necessary at this level.

Smith (1989) contends that it is time to go beyond looking at "parts" of interaction in the hope of seeing patterns and to examine interaction as a whole to yield synthesis. But Smith also asks, "how is language used to reify experience and create perceptions of health states?" Only by examining actual language choices and participants' understanding of the language choices (the parts) will patterns emerge. For example, to say that physicians select object-oriented language may mean very little to practitioners who believe that they seldom use technical jargon when talking to patients. In fact, use of technical jargon was seldom present in the speech analyzed for this investigation. Yet, patients still verified what many recent studies claim: doctors do not explain things well to their patients (Gibbs, 1989).

Physicians were found to spend a great deal of time during each patient visit talking, but they did not provide much information about the patients' medical condition and outcomes associated with compliance. This is a generalized finding that others have observed, as

well (see Hardesty, 1988 for review). The implications are apparent when considering the medical field's goal of a relationship based on negotiation and participation between physicians and patients, a patient-centered approach (Korsch, 1989; Kreps, 1989; Smith, 1989). The absence of information-giving confirms the asymmetry in the relationship, making the patient unable to participate in decision-making (Hardesty, 1988).

So what emerges from the analysis of language use in this study is how language may be used to reify experience through the selection of more nonimmediate than immediate language. Behaviors that were coded are specific and provide guidance for physicians interested in what comprises the patterns of their. Without an analysis of the specific behaviors (the parts), findings that physicians distance patients through language would have less utility. The research findings may also offer some support for use of nonimmediate language if such speech is associated with face-saving. Greater nonimmediacy did not had a negative effect on patients' understanding, satisfaction, or met expectations.

The Coding of Verbal Behavior

Finally, it is important to consider the methodology employed in this study. Emmert (1989) describes several

approaches taken to the construction of a category system for the coding of verbal interaction, including logical/deductive approaches that depend on theory to create rules about how behavior is classified. Categories used in the present study were of a logical/deductive approach derived from Wiener and Mehrabian's definition of dimensions of nonimmediacy. A difference, however, in the approach taken to the present study's coding practices addresses several concerns that reviewers, including Emmert, posit for researchers who analyze interaction. One issue is the reliability of the coding system; the second is an equivalence assumption, or the notion that every behavior put into a category counts the same in the analysis as every other behavior put into that category; and the third relates to failure to consider the context in which the language occurs.

To insure reliability in interaction analysis, the traditional approach is to unitize behavior. Critics argue that reliability then means an agreement regarding the overall occurrence of a behavior in a transcript. To assess reliability, it has been argued, a unit by unit analysis for all coders regarding the appearance of a given behavior is needed. Similar in nature to the unitization process, in other words, researchers would sit

with a transcript or coding sheet and assign an agreement score to the number of times that coders agree that a unit appears at the same juncture in speech.

In this study, the unitization of behavior into units that were keyed by time allowed the researcher to have two percentage scores in the end, whereby to examine reliability of the coders. An overall percentage for the number of units in which a behavior occurred in comparison to the overall number of units was available. But also, the researcher summed the number of seconds in which a behavior appeared so that a percentage for the total time spent being nonimmediate in comparison to the total interaction time was calculated. Therefore, comparisons were possible among coders on more than one measure of the verbal behavior. Although a similar number of seconds does not guarantee that the coders were marking the same exact units of behavior, it approaches that goal more so than simply counting the number of times a behavior occurs. Moreover, as Koorland and Westling argue (1981), count and time are measures common to all behavior.

A further problem often noted by individuals coding communication behavior is reliability decay. As a practical note for future study, it was found useful to insure that coders coded everyday to keep a constant

familiarity and pattern to the work so as not to regress in performance. However, greater reliability was maintained by coders who did not code for more than two hour sessions without breaks. Otherwise, fatigue was apt to set in, which resulted in the coders coding too many occurrences of a given behavior or not coding it at all.

The method of coding verbal behavior used in this study also addressed critics' dismay that some behaviors, which are long and variable, count the same as others that are momentary and may go on and off quickly. Thus, the equivalence notion was dealt with. When a coded behavior appeared, the length of time of its appearance contributed to the overall intensity of its occurrence, making some events less important than others of the same behavior.

With regard to the issue of coding verbal behavior out of the context in which it occurs, this study's use of trained coders rather than a computer program, for instance, facilitated dealing with this important matter. Coders received extensive training and had to make judgments about the use of language based not only on the training but their own usage of the language, facilitating the actual likelihood that if a behavior was coded in a given way, it was used in that way.

In the end, the effort involved in coding interaction can only be weighed against the actual information and learning gained by this approach. For human communication researchers interested in explaining verbal behavior, important areas for research must always include examination of the actual behavior as one area.

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