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The Persuasive Implications of Therapeutic Touch
in Doctor-Patient Relationships

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of

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Abstract

The Persuasive Implications of Therapeutic Touch
in Doctor-Patient Relationships

by Susan Lynne Haigler

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This dissertation examined the effects of touch in the therapeutic context as a factor in determining patient compliance with physician directives. In particular, the current research focused on how the use of touch performs an impression-formation function, which serves to stimulate affective and behavioral responses from patients. These responses, it is argued, influence intention to comply.

Petty and Cacioppo's (1981, 1986) Elaboration Likelihood Model (ELM) was juxtaposed with Burgoon and Hale's (1988) Nonverbal Expectancy Violations Theory (EVT) to generate two research questions and five hypotheses. In addition, the issue of physician and patient gender was examined for its effects on patients' perceptions of satisfaction with their physicians and patients' intentions to comply with physicians' directives.

In short, for male patients, touch produced no significant associations with either warmth or dominance. However, for female patients, it appears that less touch is

linked with perceptions of dominance, which is associated with less satisfaction with the caregiver, while multiple touching is associated with perceptions of warmth and greater satisfaction. For all patients, perceptions of physician warmth were associated with their satisfaction with caregivers; thus it appears that warmth was conveyed to male patients by verbal and nonverbal means, other than touch. In addition, regardless of the sex of the patient, satisfaction with the caregiver was associated with greater intentions to comply with physicians' directives.

The current findings for male patients of no significant relationships between touch and perceptions of warmth and/or dominance suggest that touch may be a contributing peripheral cue which, when isolated from the effects of other nonverbal communicators, holds little predictive power regarding male patients' persuadability in the medical setting. As a result, a more useful approach to examining persuasion in the clinical setting may be to conceptualize touch as one of multiple cues that are likely to lead to persuasion, particularly regarding male patients' intentions to comply with doctors' orders.

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Chapter One

Introduction

Patient noncompliance with a doctor's prescription is a primary obstacle to long term health care (Ice, 1985), with estimates of noncompliance and/or non-recommended drug discontinuation ranging from approximately one third of all patients (Hammond & Lambert, 1994) to up to 40% for elderly patients (Salzman, 1995). Compliance with treatment regimens is critical to stopping, and possibly reversing, potentially harmful processes (Moughton, 1982). However, compliance is not only necessary for personal health concerns. It is becoming increasingly important as a policy issue because of current health care reforms. Compliance may reduce further medical costs to the patient and provider: costs incurred by repeated visits to the doctor and/or progression of disease leading to surgery, chemotherapy, and extended hospital stays.

Research efforts to predict noncompliance with healthcare provider directives have explored such sociodemographic variables as patient age, sex, and race but yielded contradictory findings, leaving Ryan and Falco (1985) to suggest that these variables "generally bear no relation to noncompliance" (p. 686). Therefore, it is useful to look elsewhere for factors which predict

compliance. This dissertation seeks to examine the effects of touch in the therapeutic context as a factor in determining patient compliance with physician directives. In particular, the current research focuses on how the use of touch performs an impression-formation function, which serves to stimulate affective and behavioral responses from patients. These responses, it is argued, influence intention to comply.

Petty, Cacioppo, Sedikides, and Strathman's (1988) theory of the relation between affect and persuasion is helpful in demonstrating how patients' perceptions of, and subsequent attitudes toward, their doctors are capable of guiding their affective, cognitive, and behavioral responses. This focus on patient attitudes is particularly fruitful given that other researchers have identified attitudinal variables as playing an important role in predicting future behavior (Davidson, Yantis, Norwood, & Montano, 1985; Fazio & Zanna, 1981).

Briefly, Petty et al. (1988) posit that affective states are associated with enhanced or reduced persuasion via their influence on attitude formation and change. They propose that when one's ability to analyze a persuasive message is low, "attitudes may be changed as a result of relatively simple associations (as in classical

conditioning; Staats & Staats, 1958), inferences (as in self-perception; Bem, 1972), or heuristics (such as 'experts are correct'; Chaiken, 1987)" (p. 359). Because patients generally have little or no medical training with which to evaluate their physicians' judgments, their attitudes concerning the doctors' recommendations may be formed and/or changed as a result of their affective experiences with the physicians. Furthermore, regardless of patients' abilities to evaluate physicians' recommendations, it will be argued that positive affective experiences with physicians may lead to greater consideration of the physicians' arguments and enhanced persuasion to comply with their directives. These positive affective experiences often depend on "the quality of interpersonal communication between health care provider and patient" (Burgoon, Pfau, Parrott, Birk, Coker, & Burgoon, 1987, p. 307).

Other researchers concur that the interaction between the doctor and patient is critical for predicting patient compliance with directives (Becker & Maiman, 1975; Blum, 1960; Cassell, 1985; Davis, 1971; Dracup & Meleis, 1982; Hall, 1979; Harrigan & Rosenthal, 1986; Korsch & Negrete, 1974; Ley, 1988; Witte & Zmuidzinas, 1992). For example, Davis (1963, 1966, 1968a,b,c) attempted to show how communication between caregivers and their patients affects

compliance with medical regimens. His earliest findings indicate a positive relationship between compliance and the formality of the doctor-patient relationship; moreover, after a factor-analysis of categories from Bales Interaction Analysis, Davis (1971) reports a negative relationship between "malintegrative communication behavior" and compliance. In other words, patients who perceive that their doctors are detached or disinterested are less likely to comply with their orders.

In a similar vein, perceptions of physician detachment or disinterest have been linked to patient satisfaction (Buller & Buller, 1987; Burgoon et al., 1987; Street & Wiemann, 1987, 1988; Witte & Zmuidzinas, 1992). For instance, Witte and Zmuidzinas (1992) found that nonverbal immediacy (communication of warmth rather than coldness) significantly affects patients' perceptions of satisfaction. Specifically, they found that patients were more satisfied with physicians who acted more receptive, more immediate, and less dominating. Moreover, other researchers have posited a strong correlation between patient satisfaction based on perceptions of physicians' concern, friendliness and interest, and intent to comply with doctors' orders (Garrity, 1981; Hanson, 1986; Haynes, Taylor, & Sackett, 1979; Korsh & Negrete, 1972; Ley, 1988; Spierings & Miree,

1993). The results of these studies suggest that intent to comply is positively related to patient satisfaction and that satisfaction is a function of the interaction between the doctor and the patient. As such, it is of value to appraise aspects of the medical encounter that influence patients' satisfaction with their caregivers and lead to the formation of attitudes towards complying with their directives.

Researchers have frequently cited touch as a nonverbal communicator of immediacy and affection (Burgoon, 1991; Burgoon, Buller, Hale, & deTurck, 1984; Heslin & Alper, 1983; Mehrabian, 1981; Montagu, 1971) and have increasingly called for greater use of touch by medical practitioners to communicate empathy and involvement (Blanck, Buck, & Rosenthal, 1986; Blondis & Jackson, 1977, 1982; Gazda, Childers, & Walters, 1982; Gerrard, Boniface, & Love, 1980; Older, 1982; Vortherms, 1991). Because the use of touch has been found to communicate intimacy and immediacy (Burgoon, Buller, Hale, & deTurck, 1984) and often engenders liking from recipients (Hornik, 1992; Pattison, 1973), physicians' use of touch may be a significant predictor of patient satisfaction.

Moreover, the use of touch has been linked to compliance outside the medical realm (Hornik, 1992; Hornik &

Ellis, 1988; Kleinke, 1977; Powell, Meil, Patterson, & Chouinard, 1994; Smith, Gier, & Willis, 1982; Willis & Hamm, 1980). Given that touch has been linked to the conveyance of warmth (Davidhizar, 1991; Gazda et al., 1982) and warmth has been linked to compliance (Garfield, 1995; MacDonald, 1992; Pelino, 1995; Rogers, 1957), these studies, in conjunction with Burnside's (1988) finding that mentally confused nursing home patients responded more appropriately to requests when these requests were accompanied by touch, raises questions about the role of touch in compliance decisions in the clinical setting.

In Burnside's (1988) study, participants were generally mentally disoriented and unable to cognitively process and/or respond to practitioners' requests. However, when requests were accompanied by touch, the participants appeared to comprehend instructions/requests and then complied in appropriate ways. This finding illustrates that the use of touch may trigger a subconscious, pre-cognitive response in recipients, one which may supercede and/or work in tandem with rational judgments. In addition, Lane's (1986) finding that male patients' interpretations of female nurses' touches were more positive than female patients' interpretations suggests that gender of the interactants may influence these responses. In fact, gender has often been

cited a factor that influences communication outcomes and may thus affect patients' evaluations of physicians' touch (see Weisman & Teitelbaum, 1985).

Findings from gender research indicate that evaluations by the receiver of touch are often influenced by the gender of both the target of the touch and the toucher (Burgoon & Walther, 1990; Henley & Harmon, 1985; Hornik, 1992; Hornik & Ellis, 1988). For example, Burgoon and Walther (1990) found that touch-initiation by females was more positively evaluated than touch-initiation by males, particularly if the females were attractive and of high-status. In addition, Hornik and Ellis (1988) report that female interviewers who used touch in conjunction with a request had a greater response rate than males; furthermore, both male and female interviewers who used touch were more successful at achieving compliance from male targets than female targets. Given these findings, the following study seeks to examine how gender affects patients' perceptions of physicians' nonverbal immediacy, as communicated through the use of touch, and the effects of these perceptions on patient satisfaction and intent to comply with medical regimens.

Review of the Literature

The following bodies of literature are particularly relevant to the current research: touch as a facilitator of nonverbal immediacy, interpersonal persuasion, and gender research. The rest of this chapter will focus on these bodies of literature to demonstrate how the use of touch in the therapeutic context may function as an indicator of nonverbal immediacy and how perceptions of immediacy are predictive of interpersonal persuasion. Lastly, the literature surrounding gender research will be considered in relation to the previous research findings to predict outcomes of persuasive discourse, based on the gender of both physicians and patients.

Touch

The skin, as a sense organ, is of great value in interpersonal communication. The skin is not only the largest and most sensitive human organ but is also the first means of communication during the preverbal stages of intimacy (Montagu, 1971; Vortherms, 1991). Touch is also the most personal of our senses because it brings two human beings together into a close relationship and is the "most basic and primitive of the senses" (Blondis & Jackson, 1977, p. 6). Adamson (1993) concurs and states that "touch is the primary sense to develop in the human embryo" and as

such, physical contact is a valuable tool for communicating with newborns (p. 48).

As infants, people first encounter life through their sense of touch. This sense of touch not only reveals the physical world to them, but it may also convey emotional comfort, through, for example, a parent's caress. This use of touch to communicate emotional comfort also carries implications for successful parenting. Heintz (1988) maintains that people who experience generous amounts of affectionate touch during infancy develop a greater sense of self-worth and self-identity as adults. This observation is consistent with Blondis and Jackson's (1977) assertion that touch contacts are so essential to human development that children will fail to grow and mature without them. Consequently, the value of touch to human beings cannot be overly emphasized.

Although a potentially powerful channel of communication, the use of touch is highly regulated by social rules and restraints. For example, children are instructed not to allow strangers to touch them, particularly in what is colloquially referred to as their "private places." Furthermore, current media attention given to sexual harassment cases highlights the importance of being aware of the messages that touching behaviors are

likely to imply. For instance, a touch on the shoulder might indicate affection and respect to one individual; however, the same touch is likely to be perceived by another as expressing the toucher's superiority. Moreover, employers of adolescents may be interested in knowing that teenagers often regard touch as having sexual connotations (Norton, 1986). Because of the multiple interpretations placed on touching behaviors, researchers have sought to determine the social codes by which people deem certain types of touch as being appropriate in particular settings (Cockburn, 1991; Haigler, 1993, 1994; Nguyen, Heslin, & Nguyen 1975; Wentworth, 1992). These studies examined perceptions of both those who perform and receive touches. Based on social rules regarding the appropriateness of touch, Heslin (1974) proposed five categories of touch that focus on people's social roles and interpersonal relationships. His categories include sexual-arousal touches, love-intimacy touches, friendship-warmth touches, social-polite touches, and functional-professional touches. These classes of touch fall along a continuum of highly interpersonal behaviors such as facial caresses (which express recognition of the individuality of the other) to relatively impersonal behaviors such as shaking hands (which indicate little or no acknowledgement of the other's

individuality as a person). However, Heslin and Alper (1983) note that functional-professional touch is often administered in a context which allows for intimate areas to be touched, albeit in a "cold manner"; therefore, they emphasize that distinctions between the five categories ultimately depend upon the extent to which interlocutors have a sense for and appreciate each other's individuality.

Two of Heslin's (1974) categories, functional-professional and friendship-warmth, are particularly applicable to the role of touch within a unique organizational setting: the medical clinic. In the clinical setting, social interaction, both verbal and nonverbal, is particularly meaningful because it structures not only how physicians and patients perceive one another but also how they view the examination itself. Emerson (1970) posits that the social reality of the medical situation is created and sustained by the careful balancing of the medical definition of the examination with counterdefinitions. The medical definition of the physical examination implies that "the patient is a technical object to the staff" and that "the staff are concerned with the typical features of the body part and its pathology rather than with the unique features used to define a person's identity" (Emerson, 1970, p. 78). Counterdefinitions involve the recognition of the

patient as a person in order to gain his/her cooperation with the procedures of the examination. The social meanings of functional-professional and friendship-warmth touches parallel these themes.

Functional-professional touches are given while the toucher fulfills a particular role, such as that of a doctor. The person performing this role uses touch that is largely devoid of personal messages. Friendship-warmth touches, on the other hand, "occur in the context of personal concern and caring, such as the relationships between extended-family members, friendly neighbors and close work mates" (Thayer, 1988, p. 31). The synthesis of these two categories within the doctor-patient relationship reveals how a fusion of interpersonal skills may influence patient compliance with doctor requests.

For example, Emerson (1970) explains how a physician's invocation of the medical definition provides a context for the patient's interpretation of his/her touching behaviors: "'this is a medical situation' (not a party, sexual assault, psychological experiment, or anything else)" (p. 78). However, although this medical definition performs a useful function of contextualizing the touches, Emerson contends it also de-personalizes patients by implying that they are merely technical objects. As such, the physician often

seeks to attenuate this objectification by simultaneously invoking a friendship-warmth definition of the visit (p. 79). This latter definition serves to reinforce rapport, enabling the physician to obtain the patients' cooperation during the physical examination.

Physicians' balancing of the two definitions may also have implications for patients' future behaviors. Specifically, the present study is concerned with examining how perceptions of friendship-warmth touches within the medical encounter influence patients' intentions to comply with physicians' orders. However, before delving into the issue of the persuasive aspects of touch, the use of touch in medical practice must be further delineated.

Therapeutic touch. Therapeutic touch is defined as the use of physical touch for the purpose of healing (Keller & Bzdek, 1986) and is characterized as the art of transferring interpersonal energy from the practitioner to the patient (Clark, 1984). Although the use of therapeutic touch has been linked to significant decreases in patients' levels of pain and anxiety (Gagne & Toye, 1994; Keller & Bzdek, 1986; Olson & Sneed, 1995; Quinn, 1984), its use as an agent of healing "has been ignored by the institutions that train health workers and generally neglected by the researchers who are in their employ" (Older, 1982, p. 3). These

researchers readily acknowledge that the pervasive lack of interest in teaching touch as a therapeutic skill results from difficult legal and ethical issues surrounding possible misinterpretations of touch. A consequence of this situation is that physicians tend to avoid any physical contact with their patients, except for a perfunctory handshake upon greetings and farewells and the minimum use of touch required for examinations (Thayer, 1988, p. 34).

Several health care professionals have responded to this dilemma by examining the nonverbal interaction between physicians and their patients (see Harrigan & Rosenthal, 1986) and calling for increased nonverbal skills training for healthcare providers (Blanck, Buck, & Rosenthal, 1986; Blondis & Jackson, 1977; Gazda, Childers, & Walters, 1982; Gerrard, Boniface, & Love, 1980; Vortherms, 1991). These researchers operate from the premise that touch may be one of the most important of all nonverbal communicators, primarily because it is used so frequently in nursing. For example, patients are touched systematically as part of the overall nursing procedure. These procedures range from taking a temperature or blood pressure reading, drawing blood samples, giving injections, or performing bed-baths (Blondis & Jackson, 1977). This frequent necessity to perform touch provides practitioners with an additional

means of conveying empathy for and involvement with their patients.

Tenderness. Touch not only functions as a device by which to gather information about patients' physical states, but it also serves the dual purposes of enabling physicians to determine their patients' emotional well-being and to respond to their emotional needs (Blondis & Jackson, 1977). The latter function is particularly important because, according to the National Ambulatory Medical Care Survey, only about half of visiting patients show objective evidence of physical ailments, with 35% of the remaining patients seeking help with life problems, usually of an emotional nature (Older, 1982). These results illustrate that patients seek comfort, solace, and reassurance from their care-givers, emotions which are often associated with tenderness and expressed, in part, through friendship-warmth touches.

Tenderness is defined as showing care, or being considerate or solicitous; in other words, it involves expressing care and concern for another (Merriam-Webster, 1992). Because the expression and solicitation of tenderness is often limited to members of highly intimate relationships, such as between family members, other questions posed by researchers concern how and why people

are compelled to solicit expressions of tenderness from their physicians.

Blum (1960) states that "the uniformity and generality of patient activity with physician as with parents must be understood before many kinds of otherwise incomprehensible patient activity in the relationship can be explained" (p. 75). He suggests that sometimes patients unconsciously act as if the doctor were the mother or the father; he refers to behavior of this sort as transference, in which emotions, attitudes, and actions are transferred from one situation to another, in this case, "from the relationship with parents to the relationship with the physician" (p. 75).

During the preverbal period of infancy, communication between an infant and its environment (specifically, its parents) takes place through the interplay of tenderness. When the child becomes agitated, the parent typically comforts him/her. This comforting is done in various ways, but usually "involves light touch, deep touch, motion, and/or sound, usually associated with warmth, taste, and smell" (Cassell, 1985, p. 135). In order for the tenderness to be received, "the territorial defenses (of personal space) must be bridged" (p. 136). Tenderness, communicated through the use of touch, signifies safety and security and may elicit permission to enter one's personal territory.

Although tenderness is initially associated with parents, as we grow older "we transfer our permissiveness in this regard to parent surrogates," (Cassell, 1985, p. 137), for example doctors, who are then extended the right to place their hands on us, to break through our defenses and enter our personal spaces, and to be tender to us (p. 137). This transference is psychologically rooted and is a normal bonding phenomenon, with tenderness being reinforced through the use of the doctor's hands. Tenderness is thus very important in the healer's function, not only as a therapeutic tool, but as a means of establishing rapport and trust.

Similar to the parent-child relationship, transference also affords the physician a higher status vis-a-vis the patient, giving the doctor greater liberty to use touch. In fact, greater use of touch has been found to increase clients' judgments of doctor expertise (Hubble, Noble, & Robinson, 1981). Davis' (1968) suggestion that patients see doctors as authority figures (much like their parents) may account for patients' expectations that physicians take the dominant role in their relationships and utilize touch, to a degree, at their own discretion.

Because the use of touch has also been linked to perceptions of dominance, however (Burgoon, 1991; Goldberg &

Katz, 1990; Major & Heslin, 1982; Street & Buller, 1987), an interesting paradox emerges within this transference: Not only is the physician able to express tenderness toward the patient, but he/she may also, subconsciously or otherwise, express dominance over the patient. Thus, the expectation for doctors to take the dominant role in the physician-patient relationship may also, though not always, have negative implications for how the patient views the doctor affectively.

For example, patient perceptions of physician dominance (the extent to which the patient perceives the physician as communicatively controlling the interaction) has been linked to less satisfaction with the caregiver (Buller & Buller, 1987; Hall, Roter, & Rand, 1981; Lane, 1983; Street & Wiemann, 1987, 1988). Just as offspring are noted for rebelling against their parents' rules, so too patients may respond in a negative manner to physicians they perceive as overtly expressing their dominance. This negative affective response may lead to reduced intentions to comply with their orders. An examination of the literature concerning relational styles illustrates the likelihood of this outcome.

Burgoon, Pfau, Parrott, Birk, Coker, and Burgoon (1987) define relational styles as "the continual exchange of

verbal and nonverbal messages that signal how parties view each other, their relationship, and themselves within the context of the relationship" (p. 308). Their finding that patient satisfaction is linked to physicians' use of a warm, friendly relational style, as opposed to a dominant, authoritarian approach, is consistent with others' research (Buller & Buller, 1987; Doyle & Ware, 1977; Lane, 1983; Street & Wiemann, 1987, 1988). Moreover, Burgoon et al.'s (1987) finding is buttressed by research indicating that an unfriendly/aggressive style can reduce patient satisfaction (Burgoon, Jones, & Stewart, 1974; Burgoon, Birk, & Hall, 1991). Furthermore, patient satisfaction and perceptions of warmth are associated with compliance (Burgoon, et al., 1987; Burgoon, Parrott, Burgoon, Coker, Pfau, & Birk, 1990; Burgoon et al., 1991; Korsch & Aley, 1973; Korsch & Negrete, 1972). Given these findings, the mediation between touch, patient satisfaction, and compliance may be affected differently by patients' perceptions of warmth associated with the doctor than by patients' perceptions of status-dominance differentials. The following section examines how warmth may be a critical variable in determining patients' attitudinal responses.

Warmth. Warmth has been investigated in its persuasive function in advertising literature, and the medical context

is yet another venue in which to explore warmth's persuasive implications. For example, research within the medical context may illuminate how patients' perceptions of warmth associated with their caregivers influence their intentions to comply with their doctors' orders. These perceptions of warmth may be facilitated through the use of touch by physicians.

Gazda, Childers, and Walters (1982) describe warmth as a facilitative condition essential for establishing a helping relationship. Warmth is the "degree to which caregivers communicate their caring about helpees" and thus accelerates the development of mutual respect and problem-solving processes (Gazda et al., 1982, p. 97). Similarly, Aaker, Stayman, and Hagerty (1986) define warmth as "a positive, mild, volatile emotion involving physiological arousal and precipitated by experiencing directly or vicariously a love, family, or friendship relationship" (p. 366). This definition posits warmth as having positive valence and evoking moderate arousal. Lastly, Smith and Ellsworth (1985) suggest that warmth is associated with or similar to happiness and pride. Pride and happiness are described as being extremely pleasant, involving little effort, a high degree of certainty, and a strong desire to pay attention.

Warmth can be communicated through a wide variety of behaviors such as gestures, posture, tone of voice, facial expressions, or touch. For example, Gazda et al. (1982) propose that when used appropriately, touch is "soothing, comforting, and emotionally healing because it is a tangible link with life and health and is a demonstration of caring" (p. 106). As such, the use of touch can be a powerful means of conveying warmth.

The development of warmth skills by practitioners and the use of touch as a facilitator for inducing pleasant emotions has received support in the healthcare literature (Congalton, 1969; Davidhizar, 1991; Gerrard, Boniface, & Love, 1980; Vortherms, 1991). For example, Davidhizar (1991) maintains that the use of touch can create warmth and closeness between patients and caregivers, can decrease patient anxiety, and can assist patients in tolerating distress. Moreover, Anderson and Sull (1985) state, "the failure to utilize touch is indicative of interpersonal avoidance and lack of interpersonal closeness" (p. 62).

This research is consistent with Burgoon and Hale's (1988) report that "decreases in nonverbal immediacy [as communicated through the use of gaze, touch, body lean, and smiling] communicate detachment, nonintimacy, dissimilarity, and dominance, while increases in immediacy communicate more

involvement, intimacy, similarity and moderate dominance" (p. 75). The value of these immediacy behaviors is indicated in Congalton's (1969) report that patients' descriptions of the "ideal" doctor revealed that supportive interpersonal behaviors and expressive qualities were most salient.

Research findings also support the persuasive impact of warmth. For instance, Kenny (1995) found that patients reported higher satisfaction with doctors who communicate greater interpersonal warmth, and Koenigsberg, Klausner, Chung, and Pelino (1995) found a positive correlation between familial expressions of warmth and metabolic control in diabetic patients. Specifically, the latter study found greater drug compliance rates among patients whose family members expressed greater warmth toward them. Moreover, Wong and Tjosvold (1995) report that customer service personnel's warmth contributed to greater customer satisfaction and also increased customers' future willingness to be interviewed by the service representative. Finally, MacDonald (1992) contends that parental expressions of warmth affectively underlie personality development in children and function to encourage compliance with and adoption of parental values.

It is not only the targets of persuasion who identify the persuasive implications of warmth. Miller, Boster, Roloff, and Siebold (1977) identified the "liking" compliance-gaining strategy as most commonly used by the source of a persuasive appeal; thus people who seek to persuade others link the inducement of liking with greater receptiveness to rhetorical appeals. These findings are bolstered by Garfield (1995), who associates warmth with favorable outcomes in client-therapist relationships, and Rogers (1957), who concludes that warmth is a necessary and sufficient condition for therapeutic personality changes. These and other studies emphasize that improved therapeutic results are obtained when greater attention is given to the establishment of empathy, warmth, and rapport in a doctor-patient relationship (Harrigan & Rosenthal, 1986). This additional evidence supplements earlier arguments for the use of warmth skills, including certain kinds of touch, as a facilitator of compliance. Given these findings, exploring the mechanism through which this persuasion takes place is necessary.

Interpersonal Persuasion

The role of touch in persuasion has remained relatively unexplored, perhaps due to the implications and possible misinterpretations of the use of touch. However,

researchers who have investigated the effects of touch have repeatedly shown that communicators who touch persons they are trying to persuade are more successful than those who do not (Anderson & Sull, 1985; Crusco & Wetzel, 1984; Hornik & Ellis, 1988; Kleinke, 1977; Patterson, Powell, & Lenihan, 1986; Smith, Gier, & Willis, 1982; Thayer, 1988). For instance, Anderson and Sull (1985) found that subjects had more positive perceptions of an experimental confederate when touched than when not touched, and Patterson et al. (1986) found that when confederates' requests for help were accompanied by a touch, participants complied more frequently. Thayer (1988) also reiterates that it is harder to say no to someone who makes a request when he/she accompanies this request with a touch. He gives an example of politicians who "ignoring security concerns, plunge into the crowd to kiss babies, and 'press the flesh'" in order to secure votes from constituents (p. 34). Thayer further states "a momentary and seemingly incidental touch can establish a positive, temporary bond between strangers, making them more helpful, compliant, generous, and positive" (p. 34).

Research also links the use of touch with positive evaluations of and greater compliance with the toucher (Fisher, Rytting, & Heslin, 1976; Hornik, 1992; Hornik &

Ellis, 1988; Smith, Gier, & Willis, 1982). For example, Fisher, Rytting, and Heslin (1976) measured subjects' responses to being touched by library clerks who were returning their library cards. They found that the affective and evaluative response to touch was uniformly positive for females, who felt affectively more positive and evaluated the toucher and the environmental setting more favorably than in no touch conditions. Males' responses to touch were more ambivalent. Similarly, Hórník (1992) found that restaurant diners who were touched by servers evaluated the servers and the restaurant more favorably than diners who were not touched; moreover, the tipping rate was significantly greater for diners who were touched. Finally, Hornik and Ellis (1988) report that individuals, when asked to participate in mall interviews, were more likely to comply with requests that were accompanied by touch.

Although persuasive effects of touch have been explored, the theoretical mechanism underlying these effects has remained largely unexamined (see Burgoon & Hale, 1988; Burgoon, Walther, & Baesler, 1992; Heslin & Alper, 1983, for exceptions). The following section introduces a theoretical model that explains how interpersonal behaviors influence the attitudes of recipients of persuasive messages and thus facilitate the acceptance of persuasive discourse.

Elaboration Likelihood Model. Petty and Cacioppo's (1981, 1986) elaboration likelihood model (ELM) offers insight as to how a persuasive message might modify existing attitudes in either of two ways. The "central route" to persuasion highlights that a recipient attends to the arguments contained in a persuasive appeal, interprets and evaluates these arguments, and responds accordingly. This route assumes that people draw from prior experiences and knowledge to carefully examine and elaborate issue-relevant arguments within the persuasive communication. The ELM posits that as the likelihood of elaboration (the extent to which one carefully considers and evaluates the central merits of the information) increases, the quality of the arguments presented becomes a greater determinant of persuasion.

In contrast, the "peripheral route" to persuasion accounts for changes in attitudes induced by ambient cues (i.e., source attractiveness, positive/negative affect) that are in some way linked to a persuasive appeal. Petty, Cacioppo, Sedikides, and Strathman (1988) state that when the likelihood of elaboration is low, "the peripheral route takes precedence" (p. 360). The assumption is that persuasion via the peripheral route is most likely to occur

whenever salient cues are present that might induce the recipient to accept the message's conclusion.

Due to the stimulus of a peripheral cue such as physical attractiveness, a consideration of the arguments within a persuasive message is likely to involve an analysis of one's feelings toward the presenter, rather than one's beliefs. For example, a person might evaluate a potential suitor in terms of the extent to which he/she feels love in his/her presence. In this case, affect (or feelings toward the presenter) functions as an "argument" that is critical to the persuasive message.

Petty and Cacioppo's ELM has been critiqued on a number of levels, ranging from methodological to theoretical and experimental issues (Allen & Reynolds, 1993; Hamilton, Hunter, & Boster, 1993; Mongeau & Stiff, 1993). Petty, Wegener, Fabrigar, Priester, and Cacioppo (1993) respond to these critiques by specifying how they reflect misunderstandings of the model. For example, they state that a general criticism appears to be that "the ELM makes absolute rather than relative predictions"; Petty and his colleagues answer this critique by stating that the ELM works from the premise that certain processes of elaboration are more or less likely to occur when motivation and/or ability is high or low (p. 356).

Another criticism of the ELM is that it lacks theoretical specificity (Mongeau & Stiff, 1993). According to Petty and Cacioppo (1993), this critique stems from the critics' lack of distinction between moderating and mediating variables, both of which are accommodated by the model's structure. Moderating variables affect the direction and/or strength of a relationship between predictor and dependent variables, while mediating variables account for the relationship between two variables.

If (B) moderates the relationship between (A) and (C), then changes in (B) should reflect changes in either direction or strength of the relationship between (A) and (C). On the other hand, if (A) causes (B), which in turn causes (C), then (B) is a mediating variable. For example, in the doctor-patient interaction, patient ability and/or motivation to cognitively process the doctor's message could be considered variables that moderate the extent to which the patient evaluates the arguments contained in the doctor's appeals. In this case, the extent to which the patient rationally evaluates the central arguments within the message would be a mediating variable.

The ELM predicts that when patient ability and motivation to evaluate the message are high, the central route is a more likely conduit to persuasion than the

peripheral route because the patient is more apt to consider the merits of the doctor's message. However, the effectiveness of the central route to persuasion may be mitigated because the average patient has received little medical training; as a result, he/she may be unable to assess and evaluate adequately the central merits of the information provided by the physician. On the other hand, although a patient's ability to process a message may be lowered by lack of knowledge, his/her motivation for examining the doctor's message may be high if he/she is in acute discomfort. Thus, persuasion via the central route is still more likely than the peripheral route (which occurs when both ability and motivation are low). One caveat concerning a patient's experience of acute discomfort, however, is that it may distract the patient from attending to persuasive messages, instead of motivating him/her to carefully analyze the merits of the arguments. In the medical setting, the moderating strength of motivation to attend to persuasive discourse may be weakened by the severity of the patient's discomfort.

When both ability and motivation are low, the patient is more likely to rely on peripheral cues, such as physical attractiveness or perceptions of warmth, as the bases upon which to make judgments concerning the doctor's message. In

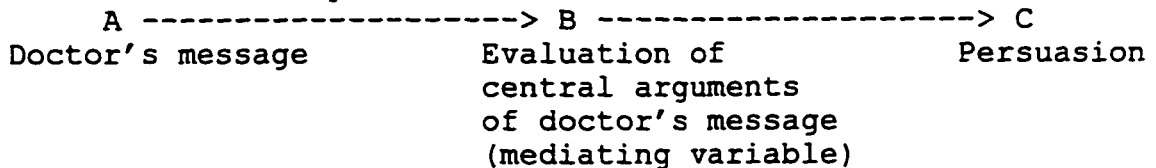
this case, physical attractiveness and/or perceptions of the doctor's warmth become moderating variables.

Petty et al. (1993) state that "a central theme of the ELM is a prediction of moderational relationships," and that "mediational hypotheses are made in conjunction with moderational hypotheses" (p. 345). By stressing the distinction between moderating and mediating variables, the ELM is able to specify how the effects of mediators are interpreted in the context of moderators (see Table 1).

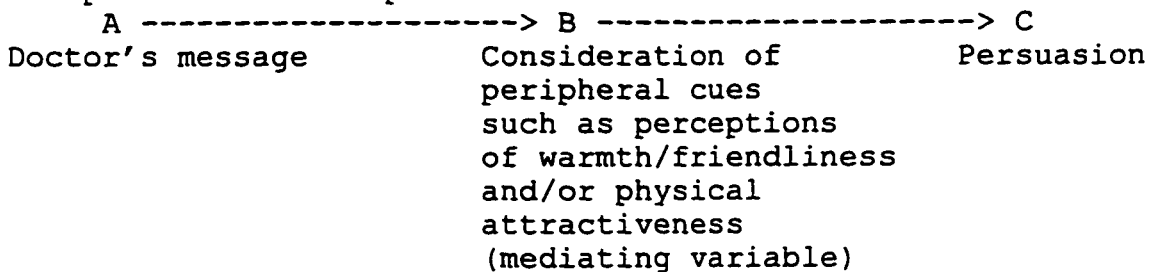
Table 1.

Application of the Elaboration Likelihood Model

Central Route to persuasion:



Peripheral Route to persuasion:



Moderating variables:

Motivation to attend to central arguments of message (sources might include patient's levels of fear and/or pain)

Ability to analyze the central arguments of the message (sources might include patient's cognitive complexity and/or knowledge of medical terms)

High Motivation + High Ability = Central Route

High Motivation + Low Ability = Central Route is more likely

Low Motivation + High Ability = Central Route is more likely

Low Motivation + Low Ability = Peripheral Route

Wu and Shaffer's (1987) proposal of a simple extension of the ELM illustrates how this model is particularly applicable to the current research. They suggest that although the ELM implies that "most, if not all, affectively mediated changes in attitude are peripheral in nature, and

hence, less durable or meaningful...strong emotional reactions stemming from affectively salient and accessible attitudes may be an important spark that ignites both the generation and the consolidation of those message-relevant elaborations that underlie persuasion (or the lack thereof) via the central route" (p. 687). In other words, one's affective response to the presenter may lead to an increase in the likelihood that he/she will examine further the central arguments of a persuasive appeal.

In the doctor-patient relationship, a peripheral cue such as source attractiveness might be a function of the level of warmth the patient associates with the doctor. The investigation of the warmth construct as a predictor of positive affect may reveal how it moderates the persuasive impact of central cues.

The following model illustrates how these moderating and mediating variables may function in the doctor-patient interaction. Assume that A represents the doctor's directive to the patient (independent variable), B represents the patient's cognitive elaboration of the message (mediating variable), and C represents the patient's attitude/beliefs (dependent variable). In the current research design, D can represent either of two moderating variables: patient ability and/or motivation (which, when

high on both dimensions, leads to the central route of persuasion) or perceptions of warmth as conveyed through the use of touch (which leads to the peripheral route to persuasion when motivation and ability are low).

Because the average patient's ability to process the central arguments in the doctor's message is low due to lack of medical training, peripheral cues may play a pivotal role in moderating the persuasive impact of the message. When a patient's ability to understand the technical aspects of the doctor's message is low, he/she may abandon the attempt to further process the merits of the message; however, if he/she responds to peripheral cues such as the doctor's warmth, a positive response may encourage him/her to consider carefully the arguments contained in the doctor's message, thus enhancing the central route to persuasion.

This understanding of the interaction between peripheral and central cues is particularly important to healthcare providers, given that Petty et al. (1988) state that "attitudes formed and changed via [the] central route are postulated to be relatively persistent, predictive of behavior, and resistant to change" (p. 359). Thus, attitudes formed during the medical encounter may be predictive of patients' long-term intentions to comply with persuasive messages received during their office visits.

Research Questions and Hypotheses

The following section considers how touch, as a peripheral cue, affects patients' perceptions of warmth and/or dominance. In turn, hypotheses are posed concerning how patients' perceptions of warmth and/or dominance are related to their satisfaction with physicians and their intentions to comply with physicians' directives. Lastly, the issue of gender will be examined to predict how gender of physicians and patients affects patients' responses to physicians' use of touch.

Although touch appears to be related to perceptions of both warmth (Davidhizar, 1991; Gazda et al., 1982; Major & Heslin, 1982) and dominance (Burgoon, 1991; Goldberg & Katz, 1990; Major & Heslin, 1982; Street & Buller, 1987; Summerhayes & Suchner, 1978), the research in this area has been conducted primarily outside of the medical context. Because of the potential for conflicting meanings to result from verbal and nonverbal interaction in the medical context (Emerson, 1970), it is unclear how the doctor-patient context influences patients' perceptions of doctors' touching behaviors. As such, the following research questions are put forth:

RQ1: What is the nature of the relationship between touch and perceived warmth associated with the doctor?

RQ2: What is the nature of the relationship between touch and perceived dominance associated with the doctor?

Wu and Shaffer's (1987) proposal that peripheral cues may induce cognitive elaborations that lead to the central route to persuasion has been substantiated within advertising literature. For example, Aaker et al. (1986) explored the relationship between warmth and arousal as illustrated in the affective responses of audience members. They found that improving the attitude towards the advertisement improved the attitude "toward the brand via some conditioning process," and further, that the same process "will affect attention, perception, or the amount of information processed" (p. 365). Their support for the conception of warmth as being evoked by the direct or vicarious experience of a love, family, or friendship relationship is parallel to Blum's (1960) discussion of transference, in which emotions or attitudes are transferred "from the relationship with parents to the relationship with the physician" (p. 75). Furthermore, Aaker et al.'s (1986) finding that the conditioning process by which attitude

toward the brand affects the amount of information processed is analogous to Wu and Shaffer's (1987) extension of the Elaboration Likelihood Model. Given these parallels, improving the attitude toward the doctor will likely improve the patient's attitude towards compliance. Based upon the conditioning phenomenon suggested by Mitchell and Olson (1981), the following hypotheses may be posed:

H1a: Greater perceptions of doctors' warmth will be associated with greater satisfaction.

H1b: Greater perceptions of doctors' warmth will be associated with greater intentions of compliance.

Conversely, if the use of touch is perceived as conveying dominance of one interlocutor over another (Burgoon, 1991; Major & Heslin, 1982), and because research indicates that perceptions of physician dominance reduce patient satisfaction (Buller & Buller, 1987; Hall, Roter, & Rand, 1981; Lane, 1983; Street & Wiemann, 1988), which has been linked to patient compliance (Burgoon et al., 1991), the following hypotheses may also be proposed:

H2a: Greater perceptions of doctors' dominance will be associated with greater dissatisfaction.

H2b: Greater perceptions of doctors' dominance will be associated with lesser intent to comply.

Gender Effects

Thayer (1988) reports gender differences in the initiation and reception of touch. He notes that gender differences are fostered by early experiences, particularly in handling and caretaking. Thayer cites a study in which a group of surgery patients are touched during their preoperative information session; women had strikingly positive reactions to being touched, while men found the experience upsetting. He concludes that men in the United States often find it harder to acknowledge dependency and fear than do women, and a touch may remind them of their vulnerability. Furthermore, Thayer states that there are "male" and "female" touch patterns, in which men use touch more for play, while women use it more for soothing and grooming. Soothing and grooming touches may be perceived as more appropriate and effective than playful touches when applied by both male and female physicians within the doctor-patient relationship.

Jones' (1986) findings are consistent with a gender differentiation in which "touching is primarily a feminine-appropriate behavior" (p. 229) (see also Jones & Yarbrough, 1985). Jones found that females initiated more touching and engaged in more total touching than males, in both same-sex and opposite-sex relationships. He offers the explanation

that men may initiate touch less because they are less likely to know how to touch. Furthermore, Major and Heslin (1982) found that females rated actors involved in touch interactions as more attractive than those involved in no-touch interactions, whereas males did the reverse.

The following section explores a theoretical model that considers how expectations of nonverbal behavior may influence people's attitudes toward another person. This model is particularly relevant to the current study because it accounts for how gender mediates nonverbal expectancies, and thus may elucidate how gender expectations influence patients' evaluations of physicians' nonverbal behaviors, which, in turn influence the acceptance or rejection of persuasive messages.

Nonverbal Expectancy Violations. Burgoon and Hale's (1988) Nonverbal Expectancy Violations model holds that people have certain expectations concerning others' nonverbal behaviors. When others act in violation of these expectations, people experience a change in arousal, resulting in heightened awareness and subsequent evaluation of the other and his/her behavior. The authors propose that "the valenced evaluation of the communicator, implicit messages associated with the violation behavior(s), and evaluations of the act combine to determine whether a

violation is positive or negative, which in turn influences communication outcomes" (p. 59).

Briefly, the theory posits that all violations lead to changes in arousal. A change in arousal distracts the receiver from concentrating on the apparent purpose of the interaction, and redirects his/her attention to the source of the arousal. At this point, the receiver engages in an interpretation and evaluation process in order to define the violation as being either positive or negative. Burgoon and Hale (1988) assert that positive violations produce more favorable communication outcomes than conformity to expectations, and negative violations produce less favorable ones.

The evaluation process is somewhat analogous to Wu and Shaffer's (1987) extension of the Elaboration Likelihood Model, which suggests that the heightened awareness of peripheral cues (e.g., source attractiveness) leads to the evaluation of both the presenter of the message and subsequently, of the message itself. In the case of physician-patient relationships, the physician who violates the patient's expectations for his/her behavior will induce the patient to engage in a two-step process: the patient will initially evaluate the physician in terms of affect,

and then the patient will assess the message presented based on his/her evaluation of the physician.

Although Burgoon and Hale's (1988) Nonverbal Expectancy Violations model posits that status differentials influence interpretations of violations, the effects of the interplay between gender, role, and status expectations may be mitigated for physicians because of the large numbers of patients seeking help with problems of an emotional nature (Older, 1982). Specifically, because women are expected to be more emotionally expressive than men (Eagly, Makhijani, & Klonsky, 1992), patients' emotional needs may heighten their acceptance of women in physicians' roles; furthermore, these emotional needs might also reduce patients' perceptions of males' interpersonal effectiveness within the physician's role. Consequently, patients' emotional needs may balance role/status perceptions of male and female physicians, despite women's lower gender status (Reed, 1983).

Given this caveat attenuating the effects of role and status expectations, when considering nonverbal expectancy violations of gender behaviors, because males tend to find touching behaviors to be upsetting, and because women tend to evaluate touch more positively than men, it may be hypothesized that:

H3a: Male patients will be less satisfied with doctors who use touch than will female patients whose doctors use touch.

H3b: Male patients' intentions to comply with doctors who use touch will be lower than female patients' intentions to comply with doctors who use touch.

Furthermore, because touching is considered a masculine-inappropriate behavior, and men are stereotypically expected to be less emotionally expressive, less friendly, and less concerned with others than women (Eagly et al., 1992), if touch is perceived as expressing warmth, then:

H4a: Male patients will be less satisfied with male doctors who use touch than with female doctors who use touch.

H4b: Male patients will be less likely to comply with male doctors who use touch than with female doctors who use touch.

Conversely, because touch is stereotypically a masculine-inappropriate behavior, female patients may experience greater levels of arousal with male doctors who use touch than with female doctors who use touch. Furthermore, because women tend to evaluate touch

positively, given the assumptions of the nonverbal expectancy model:

- H5a: Female patients will be more satisfied with male doctors who use touch than with female doctors who use touch.
- H5b: Female patients will be more likely to comply with male doctors who use touch than with female doctors who use touch.

Summary

This chapter has reviewed the bodies of literature describing touch as a facilitator of nonverbal immediacy, the effects of nonverbal immediacy on interpersonal persuasion, and the role that gender plays in mediating these effects. Research hypotheses are informed by Petty and Cacioppo's (1981, 1986) Elaboration Likelihood Model and Burgoon and Hale's (1988) Nonverbal Expectancy Violations model. However, it is important to note that the present study does not test these models directly. The method for investigating the research questions and hypotheses is presented in Chapter Two.

Chapter Two

Research Methodology

Ethical restrictions due to confidentiality issues within the doctor-patient relationship severely limit the observation of behaviors and/or the manipulation of variables within a naturalistic setting. However, Waitzkin and Stoeckle (1972) provide a review of several methodological alternatives in which participant observation, experiments, questionnaires, interviews, case-studies, and direct recording and analysis have been cleverly manipulated to yield important findings associated with doctor-patient communication. The following methodology is informed by these studies, particularly regarding the generation of the questionnaire employed.

Research Sites and Participants

In order to attenuate the effects of repeated interaction with the physicians, and because an initial visit with a new doctor may precipitate uncertainty and heighten patients' awareness of physicians' communicative behaviors, research participants were recruited upon their initial visits to a medical clinic. These visits included both routine check-ups and examinations of acute conditions; in either case, some treatments and/or recommendations were provided by the physicians. This was a necessary condition

which enabled the researcher to assess patients' intentions to comply. Incidentally, this condition required that the physicians screen their patients in terms of whether they had prescribed treatments to them before they were asked to participate in the study. Lastly, in order to satisfy the physicians' preference for patient confidentiality, the researcher did not request information regarding the purpose of the patients' visits.

A power analysis for regression (Cohen, 1987), with the level set for rejection of the null hypothesis at $p < .05$, was conducted to determine the sample size needed for maximum power. It was found that between 66 and 102 subjects were needed to detect an effect size of between .10 and .15 with a power level of .85. In order to achieve acceptable power, the current study aimed for the midpoint of the range and elicited 84 subjects.

The minimum age requirement for participation was 18 years, and participation did not entail granting permission to view medical documents. Furthermore, respondents were assured of confidentiality.

Twenty-seven general practice physicians operating within their own private practices or at a university hospital in northern New England were asked to participate in the study. However, only eleven of these physicians were

accepting new patients; of these eleven, four physicians in private practices, two males and two females, agreed to allow solicitation of respondents within their practices. The researcher contacted the physicians on a weekly basis over the course of seven months. The following table shows the number and percentage of male and female patients who visited male or female doctors.

Table 2.

Descriptive Statistics of Participants

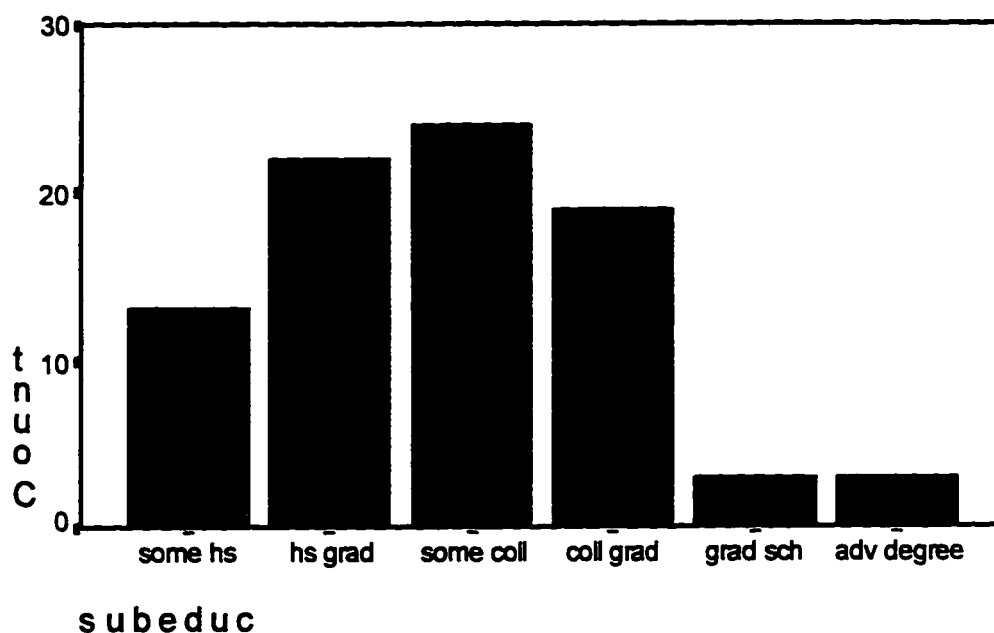
		physicians' sex			
		male		female	
subject sex	male	30	(35.7%)	16	(19.0%)
	female	22	(26.2%)	16	(19.0%)
Group Totals		52	(61.9%)	32	(38.1%)

As illustrated in the previous table, the sample population consisted of 46 males and 38 females, 94% of whom were Caucasian. Fifty-two patients (30 males and 22 females) visited a male doctor, while 32 patients (16 males and 16 females) consulted a female practitioner. Participants' ages ranged from 18-78 years, with a mean age of 39. Respondents' educational backgrounds varied widely, with 15% of the participants having achieved some high school education, 26% having graduated from high school, 29% having attended some college, 23% having graduated from

college, and 7% having attended graduate school or achieved an advanced degree.

Table 3.

Participants' Levels of Education



Procedures for Data Collection

During the method development stage of research, three physicians expressed uncertainty concerning patients' comfort with direct observations of their initial visits; therefore, an exit questionnaire was developed to preclude patient anxiety. Directly before the questionnaire was administered, participants were given two copies of a consent form which explained the purpose of the study. After the patients read the form, the researcher highlighted several features of the study, including the information

that the research was being conducted independent of the clinic and that patients' individual responses would remain confidential.

Patients were then asked to sign each form. One copy was given to the participant while the other copy remained with the researcher, yet separate from the questionnaire. This feature was added in order to assure patients of greater confidentiality. Both the consent forms and the questionnaires were letter- and number-coded so that any patients who later chose to be excluded from the study could have their questionnaires identified in an anonymous fashion. The letters corresponded with the particular physician the patients had seen (physician A, B, C, or D) and the numbers represented the patients themselves (1,2,3, etc.), so for example, patients were identified as C2, B14, A37, etc. (see Appendix A).

The actual questionnaire consisted of three sections: the first section assessed reported perceptions of the amount of touch from the physician; the second segment assessed patients' perceptions of warmth and/or dominance associated with the provider, patient satisfaction with the provider, and patients' intentions to comply with physicians' orders; and, the final section requested demographic information (see Appendix B). In order to

counterbalance any effects that the order of presentation of sections might have on participants, half of the questionnaires were administered with sections one and two reversed. Thus, in half the questionnaires administered, the assessment of perceptions of touch preceded the assessment of perceptions of warmth and/or dominance, satisfaction, and intentions to comply; conversely, the other 50% of the questionnaires assessed perceptions of touch following assessments of warmth and/or dominance, satisfaction, and intentions to comply.

The principal investigator contacted the clinics on a weekly basis to ascertain whether new patients were scheduled. Physicians were instructed to ask new patients if they would be interested in completing a survey. They informed the patients that the survey was being conducted by an independent researcher who was not affiliated with the clinic and that the physicians themselves would have no access to the information conveyed. Six patients cited time constraints as the reason for their inability to participate.

Patients who chose to participate were administered the questionnaire one-on-one by the researcher in a private examination room immediately following their visits. Participants were again reassured by the researcher that the

content of their surveys would be unavailable to their physicians and that their individual questionnaires would be destroyed upon entry of the data into the computer.

A total of 84 patients agreed to participate, seven of whom received self-addressed, stamped envelopes to return their questionnaires to the researcher's mailing address at the University of Washington. These seven patients expressed interest in the study, but because of personal time constraints, were unable to finish their questionnaires at the clinics. However, the portion of the questionnaire that assessed patients' perceptions of touch was completed by all 84 patients within the researcher's presence. The remaining 77 subjects were allowed privacy in completing the portions of the survey that assessed perceptions of warmth and/or dominance, satisfaction, and intent to comply, while the researcher waited outside the door to answer any further questions. The average amount of time taken to complete the survey was approximately 10 minutes. All patients were instructed to seal their surveys within envelopes that were stamped and addressed to the researcher's mailbox.

Questionnaire

As discussed earlier, according to Petty and Cacioppo's (1981, 1986) Elaboration Likelihood Model, persuasion is most likely to occur whenever salient cues are present that

might influence the target to accept the message's conclusion; these cues may be of a central (cognitively mediated) nature or a peripheral (affectively mediated) nature. However, Wu and Schaffer's (1987) extension of the ELM offers a third route to persuasion, one in which peripheral cues (such as source attractiveness) stimulate affective responses within recipients of a persuasive message, leading to increases in the likelihood of their elaborations (cognitive mediations) concerning the message.

The questionnaire constructed to assess the salience of touch as a peripheral cue surveyed patients' reported perceptions of touch by their doctors, whether warmth and/or dominance was conveyed by the doctors, patients' satisfaction with their physicians, and their intentions to comply with "doctor's orders." Witte and Zmuidzinas (1992) argue for this particular focus on patients' perceptions because "their perceptions and recollections about a visit with their physician are likely to strongly influence their risk perceptions and subsequent decisions regarding medical treatments" (p. 308). Therefore, in order to assess the salience of touch as a peripheral cue, the researcher obtained patient perceptual data.

Patients were asked to respond to two questions concerning their perceptions of being touched by their

doctors. These questions asked the patients (1) to recall the total number of touches they had received from their physicians, in order to stimulate the salience of this peripheral cue, and (2) to indicate how many of these touches were performed either before and/or following the diagnoses of their ailments and/or routine check-ups. Respondents were then asked to indicate on a seven-point Likert-type scale their agreement with 40 statements concerning their current medical visits. These responses ranged from 1 (Strongly disagree) to 7 (Strongly agree). Eight of the forty items assessed perceptions of dominance, thirteen items assessed perceptions of warmth, nine assessed satisfaction with the caregiver, and ten items assessed intentions to comply with the physicians' directives (see Appendix C).

The items assessing warmth, dominance, and satisfaction were adapted from subscales used in previous research, while the measure assessing intentions to comply consisted of original items constructed for the current study. Specifically, the measures assessing dominance and warmth contained items from Burgoon and Hale's (1987) subscales of immediacy/affection, similarity/depth, receptivity/trust, and dominance. Moreover, the warmth measure contained items from Gerrard et al.'s (1980) and Gazda et al.'s (1982)

scales for determining warmth. Lastly, the measure of satisfaction was adapted from Wolf, Putnam, James, and Stiles' (1978) "Medical Interview Satisfaction Scale."

Some items within the warmth, satisfaction, and intention to comply subscales were reversed and recoded. Total scores for each factor were computed by summing the responses to all items that comprised that particular global perception. Cronbach's alpha was used to determine reliabilities of each of the subscales.

Touch

In order to assess patients' perceptions of touch by the provider, Jourard's (1966; Jourard & Rubin, 1968) self-report method of asking patients to identify frequency of touch and areas of the body touched was adapted for physician-patient interactions in the present study. Jourard and Rubin (1968) reported internal reliability coefficients for the measures of same-sex touching for males as .87 and for females as .91; for opposite-sex touching, alphas reported were .89 for both males and females.

In the current study, participants were given a picture of the human body and asked to indicate the numbers of times they were touched within delineated areas. Subjects were also asked the following questions:

- Q1. Approximately how many times, if any, did your physician touch you? (for example, shook/held your hand; touched your arm/shoulder; patted you on the back, knee, leg; hugged you, etc.)
- Q2. Specifically, how many of those times, either before and/or following the diagnosis of your ailment and/or routine check-up, did your physician touch you while describing your condition and/or prescribing treatment?

The researcher was present while patients responded to this portion of the questionnaire in order to answer any questions they might have concerning the correct interpretation of the questions. These questions served to measure patients' perceptions of the two types of touch that are particularly applicable within a medical clinic: functional-professional and friendship warmth touches.

Functional-professional touches are those which are given while the toucher performs a particular role vis-a-vis the receiver. For example, Heslin and Alper (1983) cite physician-patient and beautician-customer interactions as examples of relationships in which functional-professional touches occur. Within the medical setting, functional-professional touches indicate concern with "the typical features of the body part and its pathology rather than with the unique features used to define a person's identity"

(Emerson, 1970, p. 78). The measure of perceptions of total touch received during the clinical visit (Question 1) encompassed patients' perceptions of both functional-professional and friendship-warmth touches.

Friendship-warmth touches "occur in the context of personal concern and caring, such as the relationships between extended-family members, friendly neighbors and close work mates" (Thayer, 1988, p. 31). Question 2, which measured patients' perceptions of touch received either before and/or following the diagnosis of the ailment or check-up, was designed to exclude the report of functional-professional touches by highlighting portions of patients' visits which allow physicians to invoke counterdefinitions of the medical situation. In particular, the periods either before and/or following the diagnosis of the ailment or check-up allow the physician greater latitude to use friendship-warmth touches in order to express recognition of the patient as an individual. Because patients anticipate functional-professional touches to be performed within the medical setting, this latter question served to isolate their perceptions of any exceptional touching behavior.

The responses to Question 2 were used to test the two research questions and hypotheses 1a, 1b, 2a, and 2b. These questions and hypotheses measured patients' perceptions of

warmth and/or dominance and the effects of these perceptions on satisfaction and intent to comply. Responses to Question 2 were also used to test the remaining hypotheses generated in light of Burgoon and Hale's (1988) Nonverbal Expectancy Violations model, which contends that people have certain expectations concerning others' nonverbal behaviors. According to this model, when others act in violation of these expectations, people experience a change in arousal, resulting in heightened awareness and subsequent evaluation of the other and his/her behavior. Because friendship-warmth touches are not anticipated within the medical setting, they are likely to trigger an arousal in the patient, who then must evaluate the toucher.

The juxtapositioning of Wu and Shaffer's (1987) extension of the Elaboration Likelihood Model with Burgoon and Hale's Nonverbal Expectancy Violations model strengthens the rationale for isolating patients' perceptions of friendship-warmth touches by highlighting the process by which heightened awareness of peripheral cues (i.e., friendship-warmth touches) is expected to lead to the evaluation of both the presenter of the message and subsequently, of the message itself. In physician-patient relationships, it is predicted that the physician who violates the patient's expectations for his/her behavior

induces the patient to initially evaluate the physician in terms of affect, and then to assess the message presented based on his/her evaluation of the physician.

Because friendship-warmth touches are generally not expected to occur within the clinical setting, Question 2 is particularly critical to the research design because it indirectly measures patients' perceptions of violations of nonverbal expectations. Although the current study does not assess this process directly, it is conjectured that these perceptions of nonverbal violations will stimulate patients' cognitive mediations concerning both their physicians (satisfaction) and their physicians' messages (intent to comply).

In order to determine internal reliability of the touch measure, physicians were asked to complete the same type of instrument to which patients responded regarding the amount and types of touching they perceive they performed. These questionnaires were completed for a random sample of patients immediately following the patients' medical visits (see Appendix D). Physicians were asked the following questions:

Q1. Approximately how many times, if any, did you touch the patient? (for example, shook/held his/her hand; touched

his/her arm or shoulder; patted him/her on the back, knee, leg; hugged him/her, etc.)

- Q2. Specifically, how many of those times, either before and/or following the diagnosis of his/her ailment and/or routine check-up, did you touch him/her while describing his/her condition and/or prescribing treatment?

Due to the overwhelming number of patients in-house, only three of the physicians, two males and one female, completed these questionnaires with a total of seventeen patients.

Paired t -tests of the 17 patients' reports with their doctors' reports revealed no statistically significant differences between patients' perceptions of the total amount of touch received and physicians' perceptions of total amount of touch given, $t(16) = -.68$, $p > .05$.

Patients' reports of total touch within the clinical visit ranged from 1-18 times, with an average of 7.12 touches.

Physicians' reports of total touch performed on the patients ranged from 0-18 times, with an average of 6.47 touches.

Paired t -tests performed on patients' reports of touch received either before and/or following the diagnosis of their conditions and physicians' reports of touch performed either before and/or following their diagnoses of patients' conditions revealed significantly different means, however,

$t(16) = 3.67, p < .05$. Patients' reports of touch received either before and/or following the diagnosis of their conditions ranged from 0-2 times, with an average of less than 1 touch per visit ($\underline{M} = .88$). On the other hand, physicians' reports of touch performed either before and/or following their diagnoses of patients' conditions ranged from 0-4 times, with an average of close to two touches per visit ($\underline{M} = 1.76$). These results indicate that patients perceived significantly fewer friendship-warmth touches within the clinical setting than physicians believed they performed.

Regardless of the discrepancy between physicians' and patients' reports, patients' perceptions, though necessarily subjective, are ultimately the focus of the present study because they influence relational interpretations "which may include perceptual distortions" (Witte & Zmuidzinis, 1992, p. 308). As such, patients' reports of touches are valid data for answering the research questions and for testing the hypotheses.

Frequency distributions of perceptions of touch for the entire sample population revealed that reports of total touch received (functional-professional + friendship-warmth) ranged from 0-26 touches, with an average of 7 touches per visit ($\underline{M} = 7.31$). In contrast, responses to Question 2,

which isolated perceptions of friendship-warmth touches, ranged from 0-6 touches, with an average of one touch per visit ($\bar{M} = 1.20$) (see Table 4).

Table 4.

Patients' Reports of Touch (N=84)

<u>Total Touch- Q1</u> (Functional-professional + Friendship-warmth)			<u>Isolated Touch- Q2</u> (Friendship-warmth only)		
<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>
0	1	1.2	0	28	33.3
1	2	2.4	1	34	40.5
2	8	9.5	2	9	10.7
3	7	8.3	3	6	7.1
4	10	11.9	4	5	6.0
5	6	7.1	5	1	1.2
6	14	16.7	6	1	1.2
7	7	8.3	Total	84	100.0
8	5	6.0			
9	3	3.6			
10	6	7.1			
11	3	3.6			
12	1	1.2			
15	4	4.8			
16	1	1.2			
17	1	1.2			
18	2	2.4			
20	1	1.2			
25	1	1.2			
26	1	1.2			
Total	84	100.0			

A qualitative analysis of the touch data revealed that the report of one friendship-warmth touch was uniformly that of a handshake. It can be argued that this type of touch is qualitatively different than both the absence of touch and

the presence of multiple touching in view of Burgoon's (1991) finding that in general, touching "conveyed more affection than its absence..., [and] the handshake was unique in expressing less dominance, immediacy, affection... [yet] expressing the most formality" (pp. 245-247). Given the singularity of these findings, the handshake is uniquely different from either the absence of touch or the presence of multiple touching behaviors. As such, in order to indirectly examine how expectations for behavior within the medical setting differ across these qualitatively different ranges/types of touch, responses were categorized into three groupings: no touch, one touch, and multiple touches, for further statistical analyses.

Warmth and/or Dominance

Warmth is the "degree to which caregivers communicate their caring about helpes" and accelerates the development of mutual respect and problem-solving processes (Gazda et al., 1982, p. 97). Dominance refers to the extent that patients perceive physicians as communicatively controlling their interactions. Patients' perceptions of warmth and/or dominance associated with caregivers were measured with a scale constructed for this study that included items from four subscales used by Burgoon and Hale (1987), who report moderate to high coefficient alpha reliabilities for each

dimension: .81 for immediacy/affection; .77 for similarity/depth; .76 for receptivity/trust; and .66 for dominance. These results are consistent with those obtained by other researchers (Burgoon et al., 1984; Manusov, 1984; Burgoon, Manusov, Mineo, & Hale, 1985). These items were used in conjunction with items generated from Gerrard et al.'s (1980) and Gazda et al.'s (1982) scales for determining warmth communicated by caregivers. Reliability analysis for the 13-item scale assessing warmth in the present study revealed Cronbach's alpha = .85, which indicates high reliability for this scale. In addition, the 8-item scale used to assess perceptions of dominance was also relatively reliable (Cronbach's alpha = .74).

Satisfaction with Physician

An adaptation of the "Medical Interview Satisfaction Scale" developed by Wolf, Putnam, James, and Stiles (1978) was used to assess patient satisfaction with the caregiver. This scale measures three dimensions of patient satisfaction with the caregiver: cognitive, affective, and behavioral. The latter two dimensions were particularly appropriate for the current study because they measure patient satisfaction based upon evaluations of physician behavior and patients' affective responses to these perceived behaviors (feelings of warmth and/or dominance). Wolf et al. report Cronbach's

(1961) coefficient to be .86 and .87 for the affective and behavioral subscales; they further note their interscale correlation to be .76. The 9-item scale used in the present study to assess patient satisfaction revealed good reliability (Cronbach's alpha = .83).

Intent to Comply

A scale similar to those assessing perceptions of warmth and/or dominance and satisfaction was devised to assess patients' intentions to comply with medical recommendations. The eight-item scale was based on the Health Belief Model (Becker & Maiman, 1975; Becker, 1979) and was designed to measure patients' understanding of their doctors' directives, perceptions of their physicians' competence, perceived benefits of treatments prescribed, and perceptions of the ease with which they could comply. Analysis revealed this scale to be relatively reliable (Cronbach's alpha = .80).

This chapter has described the basic design of the study, the participants of the research, the procedures followed in the conduct of data collection, and the scales used to measure the dependent variables. A summary of the statistical tests employed to answer the research questions and to test the hypotheses are presented in Chapter Three, along with their results.

Chapter Three

Results

This section will synopsise the statistical analyses employed to answer the research questions and to test the hypotheses. Following this summary, results of the analyses will be analyzed.

Statistical Analyses

The basic goal of the study was to determine how physicians' use of touch is related to patients' attitudes toward them. Because all patients were solicited within four physicians' practices, the data are not independent; therefore, non-parametric techniques were employed to test the research questions (RQ1 and RQ2) and Hypotheses 1 and 2. Non-parametric statistical tests were unavailable for testing Hypotheses 3-5; as a result, ANCOVAs were run with the physician as the covariate in order to eliminate this variable's accountability for the variance explained. For all statistical tests, there were no significant effects for physician as the covariate on the dependent variables. All analyses were computed for a 95% confidence interval ($p < .05$). Responses to Question 2 of the touch measure, which was designed to isolate perceptions of friendship-warmth touches, were used in all analyses regarding physicians' use of touch. Responses to Question 1, which measured both

functional-professional and friendship-warmth touches, were excluded.

In order to determine whether any systematic relationship exists between amount/type of touch and patients' perceptions of warmth (RQ1) and/or dominance (RQ2), the amount/type of touch (no touch, one touch, and multiple touch) was coded as an ordinal-level variable, and two Kruskal-Wallis' One-way ANOVAs were run with perceptions of warmth and dominance as the dependent variables. Given previous research findings of males' and females' differing responses to touch (Major & Heslin, 1982; Thayer, 1988), additional Kruskal-Wallis' One-way ANOVAs were run within patient sex.

In order to test the linear models implied in Hypotheses 1a and 1b (warmth is associated with greater satisfaction, which is linked to greater intent to comply), and Hypotheses 2a and 2b (dominance is associated with less satisfaction, which is linked to lesser intent to comply), two-tailed Kendall's tau-b correlation coefficients were employed to test the associations between perceptions of warmth and/or dominance and patients' satisfaction and intentions to comply with physicians' directives.

Hypotheses 3a and 3b predicted that male patients would be less satisfied and less likely to comply with doctors who

use touch than female patients whose doctors use touch. These hypotheses were tested with two 2 (patient gender) x 3 (amount/type of touch) ANCOVAs, with physician as the covariate, and patient satisfaction and intention to comply as the dependent variables.

Hypotheses 4a, 4b, 5a, and 5b were tested with two 2 (physician gender) x 3 (amount/type of touch) ANCOVAs, with physician as the covariate, and patient satisfaction and intent to comply as the dependent variables. Male patients' scores alone were selected for testing hypotheses 4a and 4b, while female patients' data alone were used for testing hypotheses 5a and 5b. In addition, independent samples t -tests were run (separate t -tests were run for male patients and for female patients) to compare mean differences in scores for satisfaction and intent to comply, based on amount/type of touch and physician gender.

Results of Research Questions

The two research questions asked what the relationship is between touch and perceived warmth associated with the source (doctor), and touch and perceived dominance associated with the source (doctor), respectively. Overall, Kruskal-Wallis' analyses revealed no significant relationships between the amount/type of touch and perceptions of warmth, $\chi^2 = 3.15$, $df = 2$, $p > .05$, nor

between the amount/type of touch and perceptions of dominance, $\chi^2 = 4.94$, $df = 2$, $p > .05$.

Analyses within patient gender produced significant findings for female patients alone. Two separate Kruskal-Wallis' One-way ANOVAs revealed that perceptions of doctors' warmth were significantly greater for female patients who were touched, $\chi^2 = 7.78$, $df = 2$, $p < .05$, than for those who were not touched, and perceptions of doctors' dominance were greater for female patients who were not touched, $\chi^2 = 9.23$, $df = 2$, $p < .05$, than for those who were touched (see Table 5).

Table 5.

Female Patients' Mean Scores for Warmth and Dominance based on Amount/Type of Touch (N=38)

<u>Amount/Type of Touch</u>	<u>Warmth</u>	<u>Dominance</u>
No Touch (N=10)	M = 5.44 SD = .78	M = 2.56 SD = .72
One Touch (N=17)	M = 5.91 SD = .80	M = 2.40 SD = .77
Multiple Touch (N=11)	M = 6.36 SD = .71	M = 1.60 SD = .68

Despite non-significant results for patients overall, Kruskal-Wallis' One-way ANOVAs for female patients' scores support the conjecture that the use of multiple touch by

physicians will be perceived, at least by female patients, as conveying care and concern, rather than dominance or authority. This supposition justifies the speculation in Chapter One that the mediation between touch, patient satisfaction, and compliance appears to hinge less, at least for female patients, on their perceptions of status-dominance differentials and more on perceptions of warmth associated with the doctor.

Results of Hypotheses

Hypotheses 1a and 1b:

Hypotheses 1a and 1b predicted that higher warmth associated with the doctor will be related to greater satisfaction with the doctor (H1a) and greater intent to comply with the doctor's directives (H1b). Kendall's tau-b correlation coefficients for all patients resulted in warmth correlating positively with satisfaction with the caregiver, $\tau_b = .63$, $p < .001$, two-tailed. These results are consistent with gender-based scores, with male patients' reports of warmth correlating positively with satisfaction, $\tau_b = .55$, $p < .001$, two-tailed, as did female patients' reports, $\tau_b = .67$, $p < .001$, two-tailed; thus Hypothesis 1a was supported. For all patients, warmth was also positively correlated with intention to comply with the doctor's orders, $\tau_b = .46$, $p < .001$, two-tailed. Again, these results are consistent with

gender-based scores, with male patients' reports of warmth correlating positively with intent to comply, $r = .34$, $p < .01$, two-tailed, as did female patients' reports, $r = .56$, $p < .001$, two-tailed; thus Hypothesis 1b also received support.

Hypotheses 2a and 2b:

Hypotheses 2a and 2b predicted that greater perceptions of dominance associated with the doctor will be linked to lesser satisfaction (H2a) and lesser intent to comply with the doctor's suggestions (H2b). For patients overall, the perception of dominance associated with the caregiver was negatively correlated with satisfaction with the caregiver, $r = -.40$, $p < .001$, two-tailed, and satisfaction with the caregiver was positively correlated with intention to comply with the doctor's orders, $r = .51$, $p < .001$, two-tailed. These findings correspond with gender-based scores, such that male patients' reports of dominance correlated negatively with satisfaction, $r = -.36$, $p = .001$, two-tailed, and intent to comply, $r = -.28$, $p < .01$, two-tailed, as did female patients' reports for dominance and satisfaction, $r = -.43$, $p < .001$, two-tailed, and dominance and intent to comply, $r = -.37$, $p < .01$, two-tailed. These results provide support for Hypotheses 2a and 2b.

Hypotheses 3a and 3b:

Hypotheses 3a and 3b predicted that the use of touch by doctors will result in male patients being less satisfied with the doctor (H3a) and less likely to comply with the doctor's directives (H3b) than female patients. Two 2 (patient gender) x 3 (amount/type of touch) ANCOVAs, with physician as the covariate, produced a significant patient gender x amount/type of touch interaction effect on satisfaction, $F(2,83) = 3.28, p < .05$, accounting for 8% of the variance; however, no significant interaction effect was found on patients' intentions to comply, $F(2,83) = .78, p > .05$. Thus, Hypothesis 3a received supported, but Hypothesis 3b was not supported (see Table 6).

Table 6.

Patients' Mean Scores for Satisfaction and Intent to Comply based on Amount/Type of Touch (N=84)

Males (N=46)

<u>Amount/Type of Touch</u>	<u>Satisfaction</u>	<u>Intent to Comply</u>
No Touch (N=18)	M = 5.89	M = 6.28
One Touch (N=17)	M = 6.04	M = 6.18
Multiple Touch (N=11)	M = 5.70	M = 6.10

Females (N=38)

<u>Amount/Type of Touch</u>	<u>Satisfaction</u>	<u>Intent to Comply</u>
No Touch (N=10)	M = 5.57	M = 6.12
One Touch (N=17)	M = 5.95	M = 6.30
Multiple Touch (N=11)	M = 6.52	M = 6.44

Post hoc analyses within patient sex, with Kruskal-Wallis' One-way ANOVAs and Kendall's tau-b correlation coefficients measuring relationships between the three categories of touch and satisfaction and intent to comply, produced interesting results. For both men and women, satisfaction correlated positively with intent to comply, $\underline{r} = .39$, $p < .001$, two-tailed, and $\underline{r} = .60$, $p < .001$, two-tailed, respectively. However, for female patients alone, reports of touch were linked with satisfaction, $\underline{x}^2 = 6.21$, $df = 2$, $p < .05$, two-tailed, accounting for 20% of the variance. The latter observation, produced by the use of a non-parametric test, lends further support for the relationship posited in Hypothesis 3a, which states that female patients will be more satisfied than male patients with doctors who use touch.

Hypotheses 4a and 4b:

Hypotheses 4a and 4b predicted that male patients would be less satisfied with male doctors who use touch than with female doctors who use touch (H4a) and that male patients would be less likely to comply with male doctors who use touch than with female doctors who use touch (H4b). A 2 (physician gender) x 3 (amount/type of touch) ANCOVA, with physician as the covariate, revealed no significant interaction effect on male patients' satisfaction, $\underline{F}(2,45) =$

2.46, $p > .05$, nor on male patients' intentions to comply, $F(2,45) = .66$, $p > .05$. Thus, Hypotheses 4a and 4b were not supported.

Independent samples t -tests revealed that male patients were significantly more satisfied with male doctors who used one touch (a handshake) ($M = 6.02$) than with those who used multiple touches ($M = 5.30$), $t(19) = 2.72$, $p < .05$, two-tailed.

Hypotheses 5a and 5b:

Hypotheses 5a and 5b predicted that female patients would be more satisfied (H5a) and more likely to comply (H5b) with male doctors who use touch than with female doctors who use touch. A 2 (physician gender) x 3 (amount/type of touch) ANCOVA, with physician as the covariate, produced a significant main effect for amount/type of touch on female patients' satisfaction, $F(2,37) = 3.79$, $p < .05$, accounting for 20% of the variance (see Table 7); however, no significant interaction effects were noted, $F(2,37) = 1.06$, $p > .05$. In addition, no significant main or interaction effects were found on female patients' intentions to comply, $F(3,37) = .15$, $p > .05$; as a result, Hypotheses 5a and 5b were not supported.

Table 7.

Female Patients' Mean Scores for Satisfaction based on Amount/Type of Touch (N=38)

<u>Amount/Type of Touch</u>	<u>Satisfaction</u>
No Touch (N=10)	M = 5.57
One Touch (N=17)	M = 5.95
Multiple Touch (N=11)	M = 6.52

Independent samples t-tests indicated that female patients were more satisfied with female doctors who used multiple touches (M = 6.56) than with female doctors who performed no touch (M = 5.04), t(7) = -3.62, p < .01, two-tailed.

Table 8.

Female Patients' Mean Scores for Satisfaction based on Physician Gender and Amount/Type of Touch (N=38)

<u>Amount/Type of Touch</u>	<u>Male Physician</u>	<u>Female Physician</u>
No Touch	M = 6.09 (N=5)	M = 5.04 (N=5)
One Touch	M = 6.11 (N=10)	M = 5.73 (N=7)
Multiple Touch	M = 6.49 (N=7)	M = 6.56 (N=4)

This chapter has examined the results of the statistical procedures used to examine the research

questions and to test the hypotheses proposed. The following section will discuss these results in view of the extant literature and will consider their implications for future research. In addition, limitations of the current study will be analyzed for possible mitigating effects on the research findings.

Chapter Four

Discussion

Although patient compliance with doctors' prescriptions is usually imperative for stopping or at least minimizing disease and/or discomfort (Moughton, 1982), noncompliance and non-recommended drug discontinuation rates are dangerously high (Hammond & Lambert, 1994; Marston, 1970; Salzman, 1995). These rates of noncompliance are grim on at least two levels: they often indicate poor patient health, and they also bode greater health care expenses. The latter consequence is generally caused by recurrent office visits and/or the initiation of further (and often more expensive) forms of treatment.

This dissertation addressed one facet of physician-patient interaction as a factor that may affect patients' intentions to comply with doctors' orders. Specifically, this study investigated the link between the use of touch and patient perceptions by examining the effects of touch in the therapeutic context as a factor in determining patient satisfaction and intention to comply with physician directives. The current research focused on how the use of touch performs an impression-formation function, which is related to affective and behavioral responses from patients.

This chapter reviews the empirical findings of this study and incorporates a discussion of their implications for theory and practice. In addition, limitations of the inquiry are examined for their heuristic applications to future research.

Empirical Results and Relevant Literature

This section summarizes the empirical results and discusses their compatibility with extant research. The order in which the research questions and hypotheses were presented dictates the presentation of the findings. In all, six groups of results are presented.

First, two research questions were directed at the relationship between doctors' use of touch and patients' perceptions of warmth and/or dominance. Warmth was operationalized as the extent to which the doctors communicate their caring and concern for their patients, while dominance referred to patients' perceptions of their physicians' attempts to control them. Within the current study, correlations between perceptions of touch and both warmth and dominance were not significant for male and female patients' combined data. However, for female patients alone, perceptions of warmth were significantly greater for those who reported multiple friendship-warmth touches compared to those who reported no such touches.

Perceptions of dominance for female patients were significantly greater for those who reported no friendship-warmth touches relative to those who reported their doctors' performances of this type of touch.

These observations of female patients' data are compatible with research that indicates that the use of touch increases the amount of empathy, trust, rapport, verbal interaction, and approach behavior between interactants (Aguilera, 1967; Burgoon et al., 1984; Hornik, 1992; Mehrabian, 1981; Pattison, 1973; Vortherms, 1991). Furthermore, the current results are consonant with Thayer's (1988) citation of female patients' positive reactions to being touched in preoperative information sessions. Lastly, these results are consistent with Burgoon's (1991) findings that dominance is communicated by not touching and that the absence of touch is least expressive of affection and receptivity/trust.

The finding that females responded more strongly than males to the use of touch is similar to Burgoon et al.'s (1992) finding that females gave consistently higher evaluations of casual touch than males. However, relative to males' evaluations, females' positive evaluations of touch may be attributed to females' viewing of touch as performing soothing functions, which women in particular may

expect from their doctors. Moreover, male patients may not have associated touch with warmth because the "well-intentioned touch may be a threatening reminder of their vulnerability" (Thayer, 1988, p. 32). Thayer (1988) cites feelings of vulnerability as being akin to the acknowledgement of fear and dependency, which is counter to expectations for male behavior (p.32).

Second, perceived warmth was found to be significantly related to both satisfaction with the caregiver (H1a) and intention to comply with the caregiver (H1b). These results are consistent with previous research which suggests that expressions of warmth result in greater patient satisfaction (Burgoon et al., 1987; Doyle & Ware, 1977; Freemon, Negrete, Davis, & Korsch, 1971; Korsch & Aley, 1973) and promote greater compliance (Ben-Sira, 1976; Cobb, 1958; Freemon, et al., 1971; Kasteler, Kane, Olsen, & Thetford, 1976; Korsch & Aley, 1973; MacDonald, 1992; Mechanic, 1968).

Third, the perception of dominance associated with the caregiver was significantly related to dissatisfaction with him/her (H2a), and satisfaction was found to be significantly correlated with patients' intentions to comply (H2b). Thus, in the current study, perceptions of physicians' dominance were linked to reductions in patients' intentions to comply with their directives. The finding

that patients were less satisfied with physicians whom they perceived to be dominant is supported by others' research (Buller & Buller, 1987; Burgoon et al., 1987; Kenny, 1995; Koenigsberg, et al., 1995; Street & Wiemann, 1987; Wong & Tjosvold, 1995). Moreover, the finding that satisfaction is linked to greater intentions to comply reinforces similar conclusions by others (Burgoon, et al., 1987; Burgoon et al., 1990; Burgoon et al. 1991; Korsch & Aley, 1973; Korsch & Negrete, 1972; Matthews & Hingson, 1977).

Fourth, regarding patient satisfaction with their physicians (H3a), there was a significant difference between male and female patients' responses to their physicians' touching behaviors; however, no significant differences were found between male and female patients' intentions to comply (H3b). Post hoc analyses revealed that for both men and women, satisfaction correlated positively with intent to comply, but for women only, physicians' use of touch correlated positively with satisfaction. Thus, it appears that for female patients, greater amounts of touching are associated with greater satisfaction with their caregivers, which in turn, is linked to greater intent to comply. These findings may result from females' association of touch with the performance of soothing behaviors, wherein the absence

of touch may indicate a lack of compassion on the caregiver's part.

These results counter Lane's (1986) finding that male patients responded more favorably to female nurses' touch behaviors than did female patients. Furthermore, it opposes Hornik and Ellis' (1988) finding that males were more compliant than females when both male and female interviewers accompanied their requests with the use of touch. On the other hand, the current findings buttress that of Smith et al.'s (1982) research, in which no gender effects were found regarding the use of touch and compliance rates.

One explanation of the inconsistencies across these studies lies in the assumption that the experimental settings were responsible for producing differing results. For example, Lane's (1986) research was conducted within a medical setting and focused on patients' responses to nurses' touching behaviors, whereas Hornik and Ellis' (1988) and Smith et al.'s (1982) studies were conducted in shopping venues and focused on shoppers' responses to marketers' requests. In Lane's (1986) study, emotional distress may have superceded effects of patient gender because the patients were surgical clients, thus male patients may have

been more receptive to soothing behaviors than under normal circumstances.

Fifth, the sex of the physician and the amount/type of touch produced no significant main or interaction effects on male patients' satisfaction with their doctors (H4a), nor on their intentions to comply with doctors' orders (H4b).

These findings oppose that of DeWever (1977), who found that nursing home patients reported greater comfort when touched by a female, rather than male, nurse. They also contradict findings that males were more compliant with females' (rather than males') requests, particularly when the requests were accompanied by touching behaviors (Bickman, 1974; Hornik & Ellis, 1988; Regan & Brehm, 1972).

The current results may be interpreted in light of Reed's (1983) discussion of role and status expectations, however. For example, societal expectations of women in medicine is that they choose nursing as a career. When women choose to become doctors, they may be seen as deviating from both role and status expectations because of the higher status afforded doctors. This theory of doubly deviating from role and status expectations has been cited to explain why women tend to be evaluated more negatively than men in similar roles (Laws, 1975; Kanter, 1977a, 1977b, 1977c; Kanter and Stein, 1980; Reed, 1983). In the current

study, the societal expectation for women to be more emotionally expressive and concerned with others than men (Eagly, Makhijani, & Klonsky, 1992) may have been less salient for male patients than role and status expectations, thereby offsetting the effects of gender-based behavioral expectations. In other words, societal expectations for women's behaviors, which may have given female doctors more license than male doctors to express warmth through touch, was perhaps mitigated by the hierarchical structure of medical practice.

Moreover, this behavioral expectation for women may also be consistent with expectations for nursing behaviors, consequently reinforcing the role expectation for women to become nurses rather than doctors. This account may further serve to explain DeWever's (1977) finding of patients' greater comfort with female, rather than male, nurses' touches. In sum, the current findings that sex of the physician was not linked to male patients' satisfaction nor to their intentions to comply may be the result of attenuated effects of gender-based expectations for behavior.

One caveat concerning weakened effects of gender-based expectations for behavior rests in the finding that male patients were more satisfied with male doctors who used one

touch (a handshake) than with those who used multiple touches. This finding is consistent with Thayer's (1988) citation of male patients' negative responses to touch during preoperative information sessions. Moreover, the combination of male patients' lesser satisfaction with multiple touches from male doctors and the finding of no significant differences between satisfaction and intent to comply with either male or female doctors is compatible with Burgoon et al.'s (1992) finding that male subjects were less generous in their evaluations of both high-valence males and low-valence females who used touch. In the current study, the former effect of male patients' lesser satisfaction with male doctors who use multiple touch may have resulted from male patients' perceptions of touch as constituting masculine-inappropriate behavior (Jones, 1986); the latter finding of no significant differences between male patients' satisfaction and intent to comply with male and female doctors may be attributed to male patients' role/status expectations.

Sixth, the amount/type of touch produced a significant main effect on female patients' satisfaction, such that greater amounts of touch were associated with greater satisfaction. Interestingly, female patients' mean scores for satisfaction with male physicians tended to be higher

than their scores for satisfaction with female physicians (see Table 8, p. 72). These scores are in the direction posited in Hypothesis 4a, however, physician gender and amount/type of touch produced no significant interaction effects on female patients' satisfaction (H5a), nor on their intentions to comply with doctors' orders (H5b); thus these hypotheses were not supported. Again, these results are contradictory to DeWever's (1977) finding that nursing home residents responded more favorably to female nurses' touches than male nurses' touches. Moreover, they are inconsistent with Hornik and Ellis' (1988) finding that females were more likely to comply with a female interviewer's requests when they were accompanied by touch, than a male interviewer's requests when he used touch. Again, the effects of experimental setting and focus may partially account for the previous findings. In addition, role/status expectations may have played out differently for female patients than for male patients, particularly given the current finding that female patients were more satisfied with female doctors who used multiple touch than with female doctors who used no touch.

Older (1982) reports that nearly half of all patients seek help with emotional issues; one possible consequence of this is that patients' emotional needs may heighten their

receptivity of expressions of immediacy/warmth from their physicians, regardless of gender. As such, role expectations for increased touch behaviors by physicians may be more salient than gender-based expectations for touch behaviors. If this is the case, male doctors who use touch may not be seen as violating nonverbal expectations. This theory may explain why female patients' reactions to male doctors' touch were not significantly different than their reactions to female doctors' touch.

On the other hand, the finding that female patients responded more negatively to female doctors who performed no touch than to those who performed multiple touches could be attributed to the conjecture that for female patients with female doctors, gender-based expectations for behavior may be equally salient with role-based expectations for behavior. In other words, the salience of a combination of gender-based and role-based expectations may have heightened female patients' anticipation of even greater amounts of touch from female doctors. Given the finding that female patients reported less touch performed by female doctors (7 reports of a handshake and 4 reports of multiple touches) relative to that performed by male doctors (10 reports of a handshake and 7 reports of multiple touches), this interpretation may explain why female patients' mean scores

for satisfaction tended to be lower with female doctors than with male doctors.

Implications for Theory and Practice

The results of this research have important ramifications for those concerned with healthcare dynamics, interpersonal persuasion, nonverbal communication, and gendered communication. This study drew upon the latter three fields of inquiry in order to develop their implications for healthcare communication. As a result, the following section will discuss the interplay of interpersonal persuasion and nonverbal communication in relation to the current findings and will elaborate on how these findings alter extant conceptions of gendered communication. In addition, the implications for healthcare communication will be considered in view of the results.

The literature surrounding interpersonal persuasion offers theoretical support concerning the mechanism through which nonverbal communication, specifically, the use of touch, can be a route to persuasion. Petty et al.'s (1988) theory of the relationship between affect and persuasion helps illustrate how perceptions of, and subsequent attitudes toward, persuasive communicators are capable of guiding people's affective, cognitive, and behavioral responses to rhetors. And, in fact, other researchers have

identified attitudinal variables as playing an important role in predicting persuasive targets' future behaviors (Davidson, Yantis, Norwood, & Montano, 1985; Fazio & Zanna, 1981).

In short, Petty et al. (1988) posit that affective states are associated with enhanced or reduced persuasion via their influence on attitude formation and change. They suggest that when motivation and/or ability to analyze a persuasive message is low, "attitudes may be changed as a result of relatively simple associations (as in classical conditioning; Staats & Staats, 1958), inferences (as in self-perception; Bem, 1972), or heuristics (such as 'experts are correct;' Chaiken, 1987)" (p. 359). Because patients generally have virtually no medical training, their attitudes concerning their doctors' recommendations may be formed and/or changed as a result of affective experiences with their physicians.

Other researchers concur with this position that the affective interaction between the doctor and patient is critical for predicting patient compliance (Becker & Maiman, 1975; Blum, 1960; Cassell, 1985; Davis, 1971; Dracup & Meleis, 1982; Hall, 1979; Harrigan & Rosenthal, 1986; Korsch & Negrete, 1974; Ley, 1988; MacDonald, 1992; Witte & Zmuidzinas, 1992). For example, Witte and Zmuidzinas (1992)

found that nonverbal immediacy (communication of warmth rather than coldness) significantly affects patients' perceptions of satisfaction, which has been linked with intent to comply with doctors' orders (Burgoon et al., 1987; Burgoon et al., 1990; Burgoon et al., 1991; Hanson, 1986; Korsch & Negrete, 1972; Korsch & Aley, 1973; Ley, 1988; Matthews & Hingson, 1977). This research suggests that intent to comply is positively related to patient satisfaction and that satisfaction is a function of the interchange between the doctor and the patient.

Because the use of touch has been found to communicate intimacy and immediacy (Burgoon et al., 1984) and may generate liking from recipients, the use of touch may be a significant predictor of patient satisfaction and intention to comply. Indeed, the current research offers some support for this conjecture. For instance, for female patients, the use of touch correlated positively with satisfaction with the caregiver. However, for male patients, touch yielded a low negative correlation with satisfaction, NS. On the other hand, for both male and female patients, satisfaction with the caregiver correlated positively with intentions to comply with the doctors' orders. Thus, at least for female patients, touch appears to be linked to satisfaction, which is related to intention to comply.

Regarding the proposed mechanism through which touch was linked to affective attitudes, for female patients, reports of touch yielded negative correlations with dominance and positive correlations with warmth. Thus, it appears that for female patients, less touch by the caregiver is linked with perceptions of dominance, while multiple touching by the caregiver is associated with perceptions of warmth. Again, these results are not surprising given previous research findings that women generally have positive reactions to being touched.

For male patients, neither warmth nor dominance was significantly related to physicians' use of touch. However, perceptions of warmth were linked with greater satisfaction and greater intent to comply. As such, other verbal and nonverbal behaviors, such as gaze, body orientation, or vocal tone may have served as peripheral cues that account for male patients' reports of warmth, satisfaction, and intent to comply.

Furthermore, in support of this explanation, although the literature surrounding consumer behavior supports the persuasive impact of touch on buyers' attitudes and compliance rates (Hornik, 1992; Hornik & Ellis, 1988; Smith et al, 1982), the medical setting may well be a venue in which consumers (patients) are more responsive to a

combination of peripheral cues, particularly when deciding whether or not to comply with a doctor's requests. For instance, these cues might include the combinations of touch and physical attractiveness, touch and communicator's age, or touch and other nonverbal immediacy cues, such as forward lean or eye gaze. Moreover, the explanatory theory of a symbiosis of factors does not negate, and in fact, may further explain Hubble et al.'s (1981) finding that clients' judgments of doctors' expertise were greater when the doctors used touching behaviors, given that factors such as physical attractiveness, client/counselor age, and other nonverbal communicators were not controlled for in their study.

In further support of the symbiotic relationship of factors explanation, one can look to Hornik's (1992) finding that the physical attractiveness of the toucher (waiter/waitress) influenced the persuasive targets' (diners) subsequent evaluations of both the toucher and his/her product (in this case, the restaurant). Similarly, particularly within the medical setting, a physician's credibility may be a function of myriad qualities such as knowledgeability, openmindedness, trustworthiness, sincerity, physical appearance, etc., not merely his/her initial "bedside manner." Moreover, although effects of the

patient's history with the physician were precluded by the research method, patients in the current study may have chosen physicians based on hearsay from former patients. This hearsay might be yet another factor which influences the patient's initial attitude towards the physician.

In summary, the implications for healthcare workers are minimally, three-fold: (1) For female patients, touch produced negative correlations with dominance and positive correlations with warmth; for male patients, no significant effects were detected between touch and warmth and/or dominance. (2) Overall, perceptions of warmth were related to patients' satisfaction and intentions to comply with their caregivers, while perceptions of dominance were associated with dissatisfaction with the caregiver. Moreover, satisfaction was linked to patients' intentions to comply with their physicians. These findings bolster those of previous research and further raise the question of determining which factors, other than touch, affect male patients' perceptions of warmth and/or dominance. Lastly, (3) For female patients, reports of multiple touches by female doctors were linked to greater satisfaction compared to reports of no touch by female doctors; furthermore, satisfaction was positively correlated with female patients' intentions to comply.

Limitations

Although care was taken to reduce flaws in the research design, some considerations mitigate the foregoing conclusions. Specifically, there are concerns associated with the validity of the touch measure and a question as to whether the measures of satisfaction and intention to comply captured sufficient variation. Furthermore, because the data are not independent, the study violates an assumption of parametric research and lowers the level of confidence that can be placed in findings based on parametric tests; however, the insignificant effects obtained for physician as a covariate eliminates this variable's accountability for the variance explained. Lastly, self-reports of intent to comply may not correspond with actual performance; however, this reservation is somewhat attenuated by the fact that other researchers have identified attitudinal variables as playing an important role in predicting future behavior (Davidson, Yantis, Norwood, & Montano, 1985; Fazio & Zanna, 1981).

Of the 17 patients for whom physicians completed instruments regarding their own performances of touch, paired t-tests revealed a significant difference between patients' reports of having received friendship-warmth touches and physicians' reports for having performed them.

That is, patients' reports of touch received either before and/or following the diagnoses of their conditions were significantly different than those which their doctors reported having performed. These patients' reports ranged from 0-2 touches with an average of less than 1 touch per visit, while their doctors' reports ranged from 0-4 touches with an average of close to two touches per visit.

This discrepancy between the patients' and doctors' reports of touch suggests that the touch measure may lack construct validity; in other words, reports of touch may not accurately reflect the numbers of touches received/performed. However, patients' perceptions, though necessarily subjective, are the focus of the present study because they influence relational interpretations of the interactions. Furthermore, these relational schemas may themselves include perceptual distortions, thereby mitigating the necessity of obtaining convergent validity (Witte & Zmuidzinas, 1992, p. 308).

An additional limitation of the study is that the measures of satisfaction and intention to comply reflect a restricted range of variation in patients' scores (see Table 6, p. 69). Although the reliability of each of the scales was relatively high, the scores for each were skewed for both male and female patients. For example, the mean score

for satisfaction was 5.96 (on a seven-point scale) and the mean score for intent to comply was 6.25 (on a seven-point scale). These scores reflect high levels of patient satisfaction and intention to comply. Given that previous estimates of noncompliance and/or non-recommended drug discontinuation rates range from between 30-40% of all patients (Hammond & Lambert, 1994; Salzman, 1995), it is likely that the current high reports of intention to comply are the result of social desirability bias.

Directions for Future Research

Given the fact that male patients reported perceptions of warmth and dominance, yet touch was unrelated to these measures, a promising line of research involves the attempt to isolate utterances/speech acts which induce perceptions of warmth and/or dominance within male patients. This research would prove particularly fruitful given the current finding that perceptions of warmth were predictive of both satisfaction with physicians and of patients' intentions to comply with their directives.

Another productive line of research concerns increasing the reliability of the instrument used to measure touch in the current study. Although Jourard and Rubin (1968) report an alpha of .89 for internal reliability of this measure, the current study's internal reliability measure indicated a

much lower alpha of .59. It is important that this measure be tested in future research because if other researchers observe similarly unreliable coefficients, the findings of the original work can be scrutinized for their veracity. Furthermore, given the "touchiness" of the nature of measuring touch in naturalistic settings, further research in this area could lead to the development of a reliable survey instrument which could reduce the necessity of direct observations.

Lastly, it is imperative that future research attempt to generalize the current findings to populations other than that which was sampled in this study. For example, the current study's participants had no previous history with their physicians. Perhaps patients' continued interactions with their physicians would attenuate or heighten the effects of gender and/or touch; and if so, one might inquire, in what ways? Moreover, the issue of patients' motivations to attend to physician's recommendations is worthy of study. For reasons outlined earlier, the present study was unable to elicit this information; however, the effects of types of illness and/or experiences of distress on patients' intentions to comply is a worthy area to explore and would supplement conclusions drawn from the current study.

Conclusion

This dissertation examined the persuasive implications of physicians' use of touch during their initial examinations with new patients. The findings herein have important implications for nonverbal communication, gendered communication, and healthcare outcomes, as observed through their complex interplay.

In short, for male patients, touch produced no significant associations with either warmth or dominance. However, for female patients, it appears that less touch is linked with perceptions of dominance, which is associated with less satisfaction with the caregiver, while multiple touching is associated with perceptions of warmth and greater satisfaction. For all patients, perceptions of physician warmth were associated with their satisfaction with caregivers; thus it appears that warmth was conveyed to male patients by verbal and nonverbal means, other than touch. In addition, regardless of the sex of the patient, satisfaction with the caregiver was associated with greater intentions to comply with physicians' directives.

The present study not only offers practical considerations for healthcare workers, but further provides evidence to support the theoretical power of integrating aspects of the Nonverbal Expectancy Violations Theory (EVT)

with that of the Elaboration Likelihood Model (ELM) to predict persuasive effects of touch. Moreover, the issue of gender proved to be a useful supplement for generating hypotheses within this framework and for explaining some of the persuasive effects noted. The current findings for male patients of no significant relationships between touch and perceptions of warmth and/or dominance suggest that touch may be a contributing peripheral cue which, when isolated from the effects of other nonverbal communicators, holds little predictive power regarding male patients' persuadability in the medical setting. As a result, a more useful approach to examining persuasion in the clinical setting may be to conceptualize touch as one of multiple cues that are likely to lead to persuasion, particularly regarding male patients' intentions to comply with doctors' orders.

Perhaps this investigation will spark the generation of future research efforts focused on determining the persuasive features of other nonverbal behaviors. In addition, the current synthesis of aspects of the EVT and ELM may adequately explain how these multiple nonverbal behaviors work together to produce persuasive effects.

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APPENDIX A

UNIVERSITY OF WASHINGTON CONSENT FORM FOR PATIENT SURVEY RESEARCH CONDUCTED BY:

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Principle Researcher
Dept. of Speech Communication
University of Washington
108 Raitt Hall
Phone: (206) 543-4860

Dr. Isabelle Bauman,
Faculty Advisor
Dept. of Speech Communication
University of Washington
Raitt Hall, DL-15
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PURPOSE:

This study seeks to determine which factors affect satisfaction with one's physician. Specifically, you will be asked for your views concerning the current medical visit. By participating in this study, you will help us understand how physicians might alter their patterns of communication to better serve their patients. We will combine your answers with others' answers to produce research articles and other materials for researchers, counselors, and teachers.

PROCEDURES:

You are asked to complete the survey that is attached and return it. It should take approximately 15 minutes to complete. There is absolutely no attempt to trick or deceive you. Your answers will only be seen by us. We will destroy the original questionnaires as soon as your answers have been transferred to the computer. The computer files will be kept for approximately three years.

YOUR RIGHTS:

This study is completely voluntary. Absolutely no pressure will be put on you to participate. You have the right to withdraw from the study now or at any later point. If you make a note of the ID number on your survey, you may ask us to return your survey and drop your answers from the study at any later time if you wish. Furthermore, you have the right to skip any questions that you may find objectionable. In addition, the information you give us will be completely confidential and you will never be identified by name. You have the right to ask whatever questions you wish now or by contacting us later. In short, we are doing everything we can to be honest and respectful of you. We hope that you will be completely honest in your answers and that you'll respond to every question you can.

I agree to participate in the research entitled "The persuasive implications of therapeutic touch in doctor-patient relationships", which is being conducted by Susan L. Haigler, (206) 543-4860.

Signature of Investigator

Signature of Participant

Date: _____

PLEASE SIGN BOTH COPIES. KEEP ONE & RETURN THE OTHER WITH THE SURVEY.

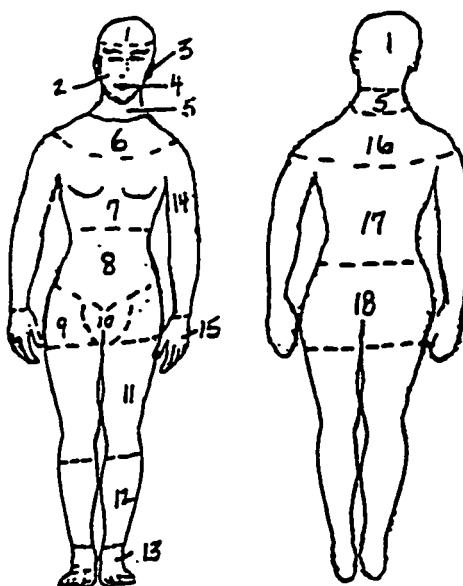
APPENDIX B

(SAMPLE QUESTIONNAIRE)

We are interested in your satisfaction with the current medical visit, because people have different ideas about how a visit should be conducted. This information is being gathered for research purposes independent of the medical facility you've just visited. Your participation is entirely voluntary, and you may skip any questions that you feel uncomfortable answering. Please be as accurate as possible while completing this form. **ALL INFORMATION WILL BE STRICTLY CONFIDENTIAL.** No one at this medical facility will have access to your responses, and your questionnaire will be destroyed once the information has been transferred to the computer. When you're finished completing the questionnaire, please seal it in the enclosed envelope and return it to the receptionist. Your participation is valuable to this research and is greatly appreciated.

Please answer the following questions in terms of your current clinical visit.

1. Approximately how many times, if any, did your physician touch you? (for example, shook/held your hand; touched your arm/shoulder; patted you on the back, knee, leg; hugged you, etc.)
2. Specifically, how many of those times, following the diagnosis of your ailment and/or check-up, did your physician touch you while describing your condition and/or prescribing treatment?
3. On the following page, you will be asked to indicate the number of times, if any, that you were touched by the physician within the body regions outlined below. For example,



Within the outlined body regions in Figure A., please indicate the number of times, if any, that you were touched by the physician during the diagnosis of your condition and/or check-up.

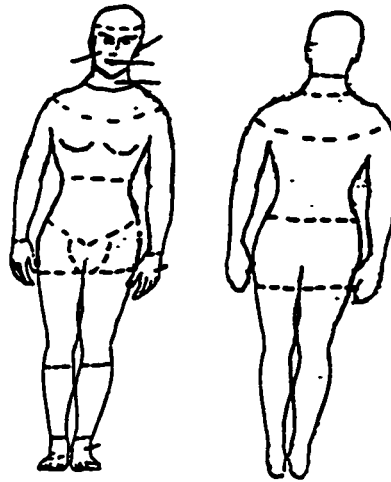


Figure A.

Within the outlined body regions in Figure B., please indicate the number of times, if any, that you were touched by the physician, following the diagnosis, while he/she described your condition and/or prescribed treatment.

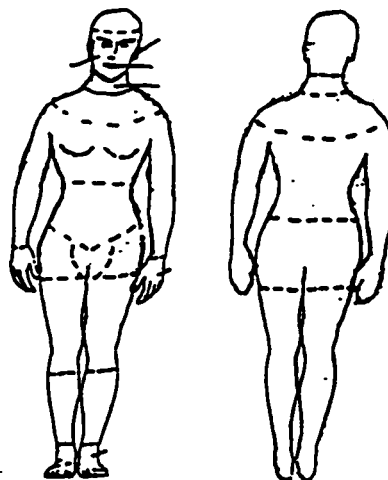


Figure B.

Consider your current medical visit and your doctor when responding to the following section. Please circle the number which best indicates your agreement with the statements below.

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

1. I felt this doctor accepted me as a person.
1 2 3 4 5 6 7
2. It will be easy to follow my treatment.
1 2 3 4 5 6 7
3. He/she attempted to persuade me.
1 2 3 4 5 6 7
4. He/she smiled at me a lot.
1 2 3 4 5 6 7
5. I intend to comply with my doctor's recommendations.
1 2 3 4 5 6 7
6. My doctor was honest in communicating with me.
1 2 3 4 5 6 7
7. I don't trust my doctor's opinion.
1 2 3 4 5 6 7
8. He/she was competitive.
1 2 3 4 5 6 7
9. The doctor seemed to know what he/she was doing during the examination.
1 2 3 4 5 6 7
10. He/she was willing to listen to me.
1 2 3 4 5 6 7
11. I will take all of my medicine.
1 2 3 4 5 6 7

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

12. My doctor was open to my ideas.
1 2 3 4 5 6 7
13. He/she gave me a thorough checkup.
1 2 3 4 5 6 7
14. He/she tried to win my approval.
1 2 3 4 5 6 7
15. I was satisfied with the doctor's decision about
what medicines I needed to take.
1 2 3 4 5 6 7
16. My doctor acted like we were good friends.
1 2 3 4 5 6 7
17. I felt this doctor didn't take my problems very
seriously.
1 2 3 4 5 6 7
18. He/she communicated coldness rather than warmth.
1 2 3 4 5 6 7
19. He/she wanted to dominate the conversation.
1 2 3 4 5 6 7
20. I trust my doctor's recommendations.
1 2 3 4 5 6 7
21. My doctor was intensely involved in our
conversation.
1 2 3 4 5 6 7
22. The doctor I saw today would be someone I would
trust my life with.
1 2 3 4 5 6 7

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

23. My doctor created a sense of distance between us.
1 2 3 4 5 6 7
24. He/she communicated aggressiveness.
1 2 3 4 5 6 7
25. It will be difficult to follow my doctor's orders.
1 2 3 4 5 6 7
26. He/she acted bored by our conversation.
1 2 3 4 5 6 7
27. I don't believe my medicine will help me.
1 2 3 4 5 6 7
28. The doctor seemed rushed during his/her
examination of me.
1 2 3 4 5 6 7
29. He/she interrupted me frequently.
1 2 3 4 5 6 7
30. I probably will not follow my doctor's
suggestions.
1 2 3 4 5 6 7
31. My doctor's tone of voice was warm.
1 2 3 4 5 6 7
32. I don't understand how to carry out my treatments.
1 2 3 4 5 6 7
33. After talking to the doctor, I felt much better
about my problems.
1 2 3 4 5 6 7

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

34. I feel the doctor did not spend enough time with me.

1 2 3 4 5 6 7

35. He/she communicated aggressiveness.

1 2 3 4 5 6 7

36. My doctor was sincere.

1 2 3 4 5 6 7

37. The doctor explained things to me in words I could understand.

1 2 3 4 5 6 7

38. My doctor made eye contact with me frequently.

1 2 3 4 5 6 7

39. I will follow all the steps of my treatment.

1 2 3 4 5 6 7

40. My doctor's tone of voice was domineering.

1 2 3 4 5 6 7

In order to correctly interpret your answers, we would appreciate as much of the following information you can supply.

Patient's Age (in years): _____
 Patient's Sex (circle): Female Male
 Physician's Sex (circle): Female Male

What is your educational level? (check highest level completed):

Some high school _____ College graduate _____
 High school graduate _____ Some graduate school _____
 Some college _____ Advanced degree _____

Patient's Race or ethnic origin (check most appropriate):

African-American _____ Hispanic _____
 American Indian _____ Asian-American _____
 Caucasion (White) _____ Other _____

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY. YOUR RESPONSES ARE INVALUABLE TO THIS RESEARCH. AT THIS TIME, PLACE THE COMPLETED QUESTIONNAIRE IN THE ENCLOSED ENVELOPE AND SEAL IT.

APPENDIX C

(ITEMS USED TO ASSESS PERCEPTIONS OF WARMTH, DOMINANCE,
SATISFACTION, AND INTENTIONS TO COMPLY)

(items in bold-face type were reversed and recoded)

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

{Subscales: 10*=satisfaction; 10**=intent to comply;
 12***=warmth; ****8=dominance}

- *1. I felt this doctor accepted me as a person.
 1 2 3 4 5 6 7

- **2. It will be easy to follow my treatment.
 1 2 3 4 5 6 7

- ****3. He/she attempted to persuade me.
 1 2 3 4 5 6 7

- ***4. He/she smiled at me a lot.
 1 2 3 4 5 6 7

- **5. I intend to comply with my doctor's
 recommendations.
 1 2 3 4 5 6 7

- ***6. My doctor was honest in communicating with me.
 1 2 3 4 5 6 7

- **7. **I don't trust my doctor's opinion.**
 1 2 3 4 5 6 7

- ****8. He/she was competitive.
 1 2 3 4 5 6 7

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

- *9. The doctor seemed to know what he/she was doing during the examination.
1 2 3 4 5 6 7
- ***10. He/she was willing to listen to me.
1 2 3 4 5 6 7
- **11. I will take all of my medicine.
1 2 3 4 5 6 7
- ***12. My doctor was open to my ideas.
1 2 3 4 5 6 7
- *13. He/she gave me a thorough checkup.
1 2 3 4 5 6 7
- ****14. He/she tried to win my approval.
1 2 3 4 5 6 7
- *15. I was satisfied with the doctor's decision about what medicines I needed to take.
1 2 3 4 5 6 7
- ***16. My doctor acted like we were good friends.
1 2 3 4 5 6 7
- *17. **I felt this doctor didn't take my problems very seriously.**
1 2 3 4 5 6 7
- ***18. **He/she communicated coldness rather than warmth.**
1 2 3 4 5 6 7
- ****19. He/she wanted to dominate the conversation.
1 2 3 4 5 6 7
- **20. I trust my doctor's recommendations.
1 2 3 4 5 6 7

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

- ***21. My doctor was intensely involved in our conversation.
1 2 3 4 5 6 7
- *22. The doctor I saw today would be someone I would trust my life with.
1 2 3 4 5 6 7
- ***23. **My doctor created a sense of distance between us.**
1 2 3 4 5 6 7
- ****24. He/she communicated aggressiveness.
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- **25. **It will be difficult to follow my doctor's orders.**
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- *28. **The doctor seemed rushed during his/her examination of me.**
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- ****29. He/she interrupted me frequently.
1 2 3 4 5 6 7
- **30. **I probably will not follow my doctor's suggestions.**
1 2 3 4 5 6 7
- ***31. My doctor's tone of voice was warm.
1 2 3 4 5 6 7

1	2	3	4	5	6	7
strongly disagree	somewhat disagree	disagree	neutral	agree	somewhat agree	strongly agree

****32. I don't understand how to carry out my treatments.**
 1 2 3 4 5 6 7

***33. After talking to the doctor, I felt much better
 about my problems.**
 1 2 3 4 5 6 7

***34. I feel the doctor did not spend enough time with
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*****36. My doctor was sincere.**
 1 2 3 4 5 6 7

***37. The doctor explained things to me in words I could
 understand.**
 1 2 3 4 5 6 7

*****38. My doctor made eye contact with me frequently.**
 1 2 3 4 5 6 7

****39. I will follow all the steps of my treatment.**
 1 2 3 4 5 6 7

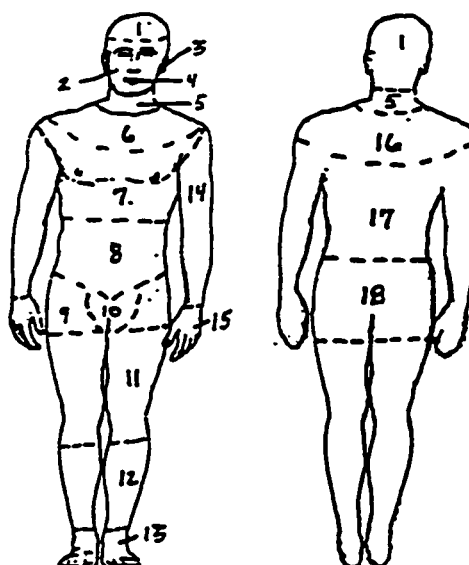
*****40. My doctor's tone of voice was domineering.**
 1 2 3 4 5 6 7

APPENDIX D

(DOCTORS' QUESTIONNAIRE)

Please answer the following questions in terms of the patient you have just seen.

1. Approximately how many times, if any, did you touch the patient? (for example, shook/held his/her hand; touched his/her arm/shoulder; patted him/her on the back, knee, leg; hugged him/her, etc.)
2. Specifically, how many of those times, following the diagnosis of his/her ailment and/or check-up, did you touch the patient while describing his/her condition and/or prescribing treatment?
3. On the following page, you will be asked to indicate the number of times, if any, that you touched the patient within the body regions outlined below. For example,



Within the outlined body regions in Figure A., please indicate the number of times, if any, that you touched the patient during the diagnosis of his/her condition and/or check-up.

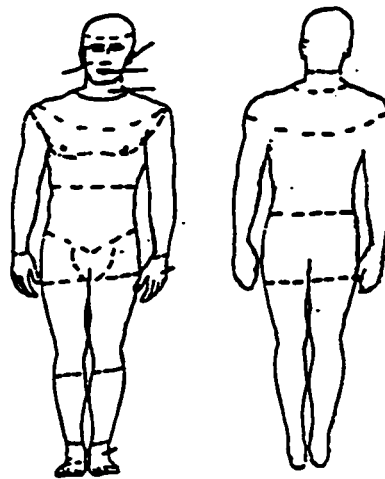


Figure A.

Within the outlined body regions in Figure B., please indicate the number of times, if any, that you touched the patient, following the diagnosis, while describing his/her condition and/or prescribing treatment.

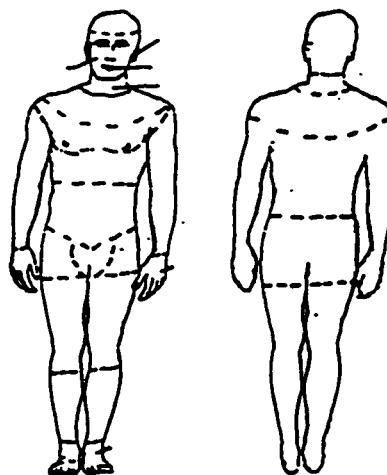


Figure B.

VITA
SUSAN L. HAIGLER
 7437 S.W. Aloma Way #3
 Portland, Oregon 97223
 (503) 452-3687

EDUCATION	DOCTORATE OF PHILOSOPHY UNIVERSITY OF WASHINGTON Organizational / Interpersonal Communication Dissertation Topic: Persuasive Implications of Therapeutic Touch in Doctor-Patient Relationships MASTER OF ARTS UNIVERSITY OF GEORGIA Organizational / Interpersonal Communication Thesis Topic: Leadership Stages and Conflict Management Styles BACHELOR OF SCIENCE WINGATE UNIVERSITY Speech Communication / Business Administration	Fall, 1996 Seattle, WA Fall, 1990 Athens, GA Spring, 1986 Wingate, NC
EXPERIENCE	Lecturer Champlain College, Burlington, VT Interpersonal Communication, Public Speaking, Small Group Communication University Instructor University of Washington, Seattle, WA Oral Interpretation, Public Speaking Community College Instructor Shoreline Community College, Seattle, WA North Seattle Community College, Seattle, WA General Contractor Self-employed, Athens, GA Small Business Co-owner Bulldog Chimney Sweepers, Athens, GA University Instructor University of Georgia, Athens, GA Public Speaking, Interpersonal Communication	1995-1996 1991-1995 1995 1989-1991 1988-1991 1987-1989
SKILLS	Instructional Designer and Lecturer: Interpersonal Communication, Public Speaking, Oral Interpretation of Literature, Basic Speech Communication, Small Group Communication, Communication and Conflict. Statistician: Analyzed thesis / dissertation research in SPSS-X and SPSS/PC+.	
ACTIVITIES	Honor Society for Collegiate Journalists; Phi Eta Sigma (Freshman Honor Society); Graduate Faculty Representative - University of Washington; WInternational Travel Program: Moscow, Leningrad, Amsterdam; Odyssey of the Mind - Small Group Training, Burlington, VT; Cultural Diversity Committee - Champlain College, Burlington, VT	