

# Norms and Nurse Management of Conflicts: Keys to Understanding Nurse–Physician Collaboration

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**Abstract:** In this cross-sectional study, registered nurses from 36 emergency rooms completed an abridged version of the Organizational Culture Inventory (Cooke & Lafferty, 1989) and responded to nine hypothetical conflict vignettes. Stepwise regressions were performed with nurse conflict style intentions as dependent variables and 10 independent variables (three sets of norms, five measures of conflict styles expected to be used by the physician, gender, and education). Nurses' expectations for physicians to collaborate and strong constructive and aggressive norms were found to explain a moderate amount of variance (32%) in nurses' intentions to collaborate in conflicts conducive to nurse–physician collaboration. The findings of this study provide support for the proposed theoretical framework and can be used to design interventions that promote nurse–physician collaboration. © 1998 John Wiley & Sons, Inc. *Res Nurs Health* 21: 59–72, 1998

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The knowledge explosion, combined with a limited understanding of the outcomes associated with health interventions, is producing a number of conflicts for which there are no clear solutions. Interdisciplinary collaboration is being advocated as an appropriate method to address such conflicts. Collaboration requires that parties, who see different aspects of a problem, communicate together and constructively explore their differences in search of solutions that go beyond their own limited vision of what is possible (Gray, 1989). Nurses and physicians comprise the largest segment of health care providers and are daily confronted with complex problems for which there are no right solutions. Many argue that nurses and physicians must collaborate to address these issues because consideration of nurse and physician

concerns is essential to the development of high-quality solutions (Fagin, 1992; Feinberg & Langner, 1988; Knaus, Draper, Wagner, & Zimmerman, 1986; Pike, 1991; Shortell, Rousseau, Gillies, Devers, & Simons, 1991). Baggs and Schmitt (1988) conducted the most comprehensive review of the literature on nurse–physician collaboration to date. Their work and that of others (Coeling & Wilcox, 1994; Fagin, 1992; McMahan, Hoffman, & McGee, 1994; Prescott & Bowen, 1985; Prescott, Dennis, & Jacox, 1987; Stein, Watts, & Howell, 1990; Weiss, 1983, 1985) indicate that nurse–physician collaboration is not widespread and a number of barriers exist. A particularly important barrier is that nurses and physicians have not been socialized to collaborate with each other and do not believe they are expected to do so.

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Nurses and physicians traditionally have operated under the paradigm of physician dominance and nurse deference in which the physician's position prevails on patient care issues. Collaboration, on the other hand, involves mutual respect and valuing of one's own contributions as well as the contributions of the other party in a conflict situation (Reeder, 1983). Only recently have nurses and physicians begun to reject the traditional paradigm and recognize that physician dominance is inappropriate for managing certain patient care issues. Rejection of the traditional paradigm, however, is no guarantee that behavior will move in the desired direction. Increasing nurse-physician collaboration will require efforts directed at assisting nurses and physicians to work with each other in ways very different from what both have become accustomed to.

This study was designed to examine the conditions associated with nurses' willingness to collaborate with physicians in conflict situations. Although there is little evidence of widespread nurse-physician collaboration, it is proposed to occur when nurses anticipate collaborative behaviors on the part of physicians and personally believe that unit norms support constructive interaction styles.

Conflict is defined as "the process that begins when one party perceives that the other party has negatively affected, or is about to negatively affect, something that he or she cares about" (Thomas, 1992, p. 653). Most nurse-physician conflicts are reported to occur in the areas of general plan of care, specific orders, and patient disposition (Prescott & Bowen, 1985). Relative to physicians' judgments, nurses claim they have greater responsibility for professional decisions and behaviors common to both professions (Damosch et al., 1993; Katzman, 1989; Prescott & Bowen, 1985; Weiss, 1983).

Conflict management refers to the styles used by either or both parties to cope with a conflict. Styles have been conceptualized in the literature along one (Deutsch, 1949) or two dimensions (Blake & Mouton, 1964), and have ranged in number from two (Deutsch, 1949) to five (Blake & Mouton, 1964; Hall, 1986; Putnam & Wilson, 1982; Rahim, 1983a; Renwick, 1975; Ross, 1988; Shortell et al., 1991; Thomas & Kilmann, 1974; Tjosvold, 1982). Rahim's (1983b) two-dimensional framework is used to define conflict management styles in this study.

The first dimension in Rahim's framework is the degree to which a person satisfies his or her own concerns in a conflict situation. The second dimension is the degree to which a person satisfies

the concerns of the other party in a conflict situation. The five styles defined in terms of these dimensions are collaborating, avoiding, dominating, obliging, and compromising. The use of *collaboration* demonstrates a high concern for self and high concern for others; the parties seek a solution that incorporates both of their perspectives. *Avoiding* is a style that reflects a low concern for self and low concern for others; one or both parties to the conflict refrain from arguing and confronting. The *dominating* style shows high concern for self and low concern for others; a party seeks to win his or her position at all costs. *Obliging* reflects a high concern for others and low concern for self; differences are glossed over and played down. *Compromise* is a midrange style reflecting moderate concern for self and other; parties pursue resolution of differences by meeting the opponent halfway.

In early empirical studies researchers attempted to attribute conflict style preferences to personal characteristics (Bell & Blakeney, 1972; Chanin & Schmeer, 1984; Kilmann & Thomas, 1975; Steers & Braunstein, 1976). More recently, researchers have begun to examine the influence of context on an individual's conflict style choices (Bergman & Volkema, 1989; Chusmir & Mills, 1989; D. Johnson, R. Johnson, Smith & Tjosvold, 1990; Kabanoff, 1985; Prescott & Bowen, 1985; Rahim, 1985; Renwick, 1975; Richmond, Wagner, & McCroskey, 1983; Shortell et al., 1991; Thomas, 1992; Tjosvold, 1982).

Referent role, or position in the organizational hierarchy, is an important context variable. Investigators have found a relationship between a superior's conflict style and a subordinate's choice of style in superior-subordinate conflicts (D. Johnson et al., 1990; Kabanoff, 1985; Rahim, 1985; Renwick, 1975; Richmond et al., 1983; Tjosvold, 1982). Subordinates indicate a preference for using collaborating, obliging, and compromising to manage conflicts with superiors (Rahim, 1985; Renwick, 1977; Zammuto, London, & Rowland, 1979); superiors report preferring the collaborating, avoiding, and dominating styles (Chusmir & Mills, 1989; Rahim, 1985; Renwick, 1977).

In related studies in health care settings, researchers have noted an association between referent role and nurse and physician communication (Coeling & Wilcox, 1994; Cunningham & Wilcox, 1984; Katzman, 1989; Lamb & Napadano, 1984; Prescott et al., 1987; Stein, 1967; Weiss, 1983, 1985; Weiss & Remen, 1983). Barley (1986) detailed the profound influence of the physician's communication pattern on the nonphysician coworker. The nonphysician generally showed def-

erence to a physician unless the physician indicated that deference was not required. Under the deference condition, the nonphysician often failed to act when he or she possessed pertinent knowledge with the exception that the nonphysician used an elaborate indirect communication scheme to prevent gross harm. Others have noted this pattern specifically with respect to physician–nurse communication (Coeling & Wilcox, 1994; Cunningham & Wilcox, 1984; Stein, 1967). More generally, deferential communication by members of one profession to those of another signifies and reflects, with possible adverse consequences, the lower status of the former.

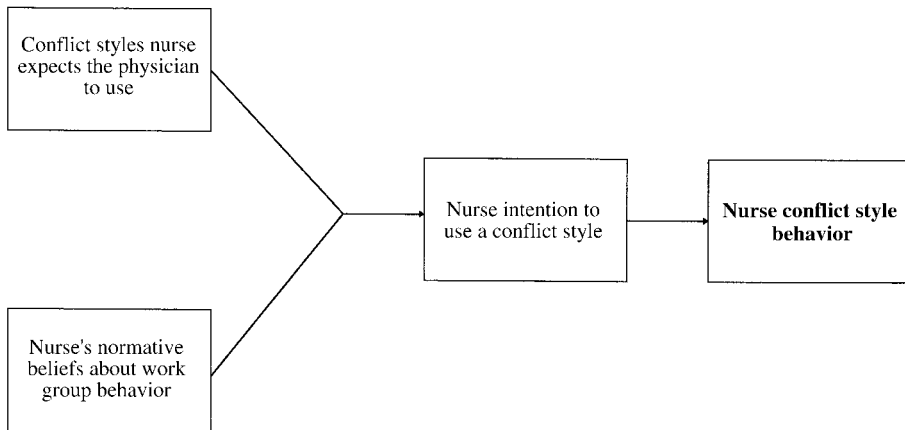
Work group norms (Renwick, 1975) and individual normative beliefs (Cooke & Szumal, 1993) are other important context variables. Normative beliefs are cognitions held by an individual regarding others' expectations for his or her behavior; group norms or shared behavioral expectations are those normative beliefs that are held in common by the members of a group or organizational subunit (Cooke & Szumal, 1993; Fishbein & Ajzen, 1975). Renwick (1975) found that, in settings where norms support employee participation, subordinates preferred to collaborate, compromise, and dominate with superiors, and superiors preferred to collaborate and oblige with subordinates. Shortell et al. (1991) noted a relationship between physician- and nurse-reported use of the collaborative style (in physician–nurse conflicts) and constructive or team-oriented norms (Cooke & Lafferty, 1989). These findings are inconsistent with previously cited studies in which norms were not controlled.

A synthesis of the conflict management research suggests that two-dimensional frameworks (e.g., Blake & Mouton, 1964) provide only a partial explanation of an individual's conflict style choices in organizational situations. Such frameworks do not adequately address *why* one selects a "self-" and/or "other-" oriented conflict style. Thomas (1992) proposed that, in organizational situations, one's subjective interpretation of reality and emotions combine to explain one's intentions and conflict management behavior. Two elements comprise the individual's subjective interpretation of reality: (a) normative reasoning, and (b) rational/instrumental reasoning. Normative reasoning represents one's perception of the acceptability of one's conflict style choices to an important reference group. Rational/instrumental reasoning is one's perceived ability to influence the outcome of a conflict situation relative to one's perception of the opponent's influence in the situation. Emotions encompass the feelings that arise

during the conflict management process as well as those left over from previous events.

The Thomas (1992) model provided the basic structure of the study framework in which nurse conflict management behavior is explained in terms of three constructs: (a) nurse conflict intentions, (b) normative reasoning, and, (c) rational/instrumental reasoning. Nurse conflict intentions are defined as the likelihood of the nurse using a conflict style in a current nurse–physician conflict. Normative reasoning is defined as the nurse's individual normative beliefs with respect to three general types of behaviors: constructive, passive–defensive, and aggressive–defensive. Constructive normative beliefs are expectations for behavior that promote the fulfillment of higher order needs such as achievement, self-actualization, concern for others, and affiliation. Passive–defensive normative beliefs are expectations for behaviors that are nonthreatening, subservient, and unlikely to compromise one's marginal position within the organization. Aggressive–defensive normative beliefs embody expectations that one must act in forceful and strongly assertive ways to protect one's status (Cooke & Lafferty, 1989). Rational/instrumental reasoning is defined as how the nurse expects the physician to act in a current nurse–physician conflict and represents the nurse's perceptions of (a) how the physician has managed nurse–physician conflicts in the past; (b) how the nurse has managed the same nurse–physician conflicts; (c) the degree of influence the nurse and physician each exerted over the final outcomes of the conflicts; and (d) emotions of the nurse related to the past experiences with the physician (Barley, 1986). The relationship of these constructs in the study framework is depicted in Figure 1; the conflict styles the nurse expects the physician to use combine with the nurse's normative beliefs about work group behavior to predict the nurse's intentions to use a conflict style and actual behavior.

Based on the study framework and research reviewed, a proposition concerning nurse collaboration with the physician was formulated: The nurse is more likely to collaborate (self- and other-oriented style) with a physician when the nurse strongly expects that the physician will use the other-oriented styles in conflict situations, and when the nurse believes constructive behaviors are expected by the work group. Two specific hypotheses were tested: First, the stronger the nurse's expectations for the physician to collaborate, compromise, or oblige, and/or the stronger the nurse's normative beliefs with respect to constructive behaviors, the stronger the nurse's intentions to collaborate in specific patient care conflict



**FIGURE 1.** Theoretical model of nurse management of conflict with physician.

situations with the physician. Second, the stronger the nurse's expectations for the physician to avoid or dominate, and the stronger the nurse's normative beliefs with respect to either passive-defensive or aggressive-defensive behaviors, the weaker the nurse's intentions to collaborate in specific patient care conflicts with physicians.

Although no hypotheses were formulated relative to the nurse's intentions to use the passive conflict styles, the analyses included those variables. Gender and education also were included in the analyses without hypotheses. Some researchers have found a relationship between gender and conflict style (Chanin & Schmeer, 1984; Chusmir & Mills, 1989), whereas others have not (Rahim, 1983b; Renwick, 1977; Zammuto et al., 1979). Education of the nurse was incorporated because many assert that the nurse's educational background influences how the nurse and physician manage mutual conflicts (Fagin, 1992; Prescott et al., 1987; Stein et al., 1990), although this has not been validated.

## METHOD

### Sample

A two-stage process was used to select the sample of nurses for this study. First, a random sample of hospitals in the state of Illinois was selected and, then, from each hospital a random sample of nurses was selected. Within the hospitals, nurses were sampled exclusively from emergency rooms (ERs). ERs were selected because (a) the first author has worked in ERs, specialty units, and general units, and considers nurses who work in ERs to be among the most assertive; (b) the second au-

thor has studied conflict and cooperation in ERs (Georgopoulos & Cooke, 1980), and physician access and exposure is fairly consistent across these units. Illinois ER visit data [Illinois Department of Public Health (IDPH) 1992a, 1992b] and state ER classification data (IDPH, 1991) were used to identify eligible ERs. Based on feasibility and sample size requirements, 40 were randomly selected from 109 eligible hospital ERs that met the following criteria: (a) employed a minimum of 7 full-time registered nurses; and (b) provided on-site physician coverage 24 hr/day. Thirty-seven ERs permitted researcher access.

Following the selection of ERs, 7 registered nurses were randomly selected from each unit and asked to complete the survey developed for this study. Criteria for nurse eligibility were: (a) current registered nurse licensure in Illinois; (b) worked an average of 36 hr or more per week (for two ERs, this was dropped to 30 hr in order to ensure a sample size of 7 RNs); (c) worked a minimum of 6 months as a registered nurse in the ER where currently employed; and (d) spent a minimum of 80% of time in patient care activities. Seven RNs per ER were selected in hopes of achieving a minimum response rate of 5 per ER for use in examining interrater reliability of nurse perceptions of norms within a setting. A more detailed account of the sampling procedure is described in Keenan (1995). Of the 259 nurses asked to participate, 196 from 36 ERs completed and returned the surveys (for a 76% individual response rate). The desired minimum of 5 respondents per ER was not achieved for the 36 ERs; thus, interrater reliability of nurses' normative perceptions within an ER was not examined for this report.

The majority of the 196 nurse respondents (88%) were female and White (10% were male).

Fifty percent were 30–39 years old and an additional 30% were 40–49 years old. The respondents were an experienced group: 87% percent had worked for 4 years or longer as a nurse; 36% percent had worked for 15 years or longer; and 85% percent had worked for their current organization for 2 years or longer. The nurses' educational background varied: 53% held a diploma or associate degree, 38% held a baccalaureate degree in nursing, and 4% had a master's degree.

## Survey Instrument

The survey instrument of 132 questions was divided into three parts: (a) a general information section assessing respondents' work history, education, and demographics; (b) an abbreviated version of the Organizational Culture Inventory (OCI; Cooke & Lafferty, 1989) assessing the nurses' beliefs regarding the strength of three types of work group norms; and (c) nine vignettes, developed by the first author in collaboration with ER nurses, assessing the strength of the nurse's inten-

tions to use the conflict management styles and the strength of expectations for physicians to use the styles (see Table 1). The average amount of time required to complete the questionnaire was 25 min.

Individual normative beliefs were measured through the use of the OCI. The OCI measures the extent to which people believe they are expected to behave in constructive (e.g., achievement-oriented and affiliative), passive–defensive (dependent and conventional), and aggressive–defensive ways (power-oriented and oppositional). Respondents were asked to indicate on a 5-point scale ranging from 1 (*not at all*) to 5 (*a very great extent*), the extent to which people like themselves are expected to, for example, “encourage others” (constructive item), “check decisions with superiors” (passive item), and “maintain an image of superiority” (aggressive item).

The full 120-item version of the OCI has been shown to be reliable and valid for measuring both individual normative beliefs and shared behavioral norms in organizations (Cooke & Szumal, 1993). An abridged, 36-item (12 items per factor)

**Table 1. Conflict Vignettes**

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**Physician's order:** The physician with whom you work most frequently decides to admit a patient of your's to the hospital. In your mind you disagree with the physician on this admission.

|             |  |
|-------------|--|
| Nurse 1     | How likely are you to react in each of the following ways?   |
| Physician 1 | Now assume that you initially chose to address the disagreement by seeking an open and amicable discussion with the physician. How likely is the physician to react in each of the following ways?   |
| Nurse 2     | Finally, assume that the physician responds to your attempt at an amicable discussion by firmly stating that he/she intends to go ahead with the admission. In your mind you still do not agree with the admission. How likely are you to react in each of the following ways? |

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**Nurse's Order:** You order a procedure (within your scope of duties) which you believe is important to the care and well-being of your patient. The physician (with whom you work most frequently) disagrees with you about this procedure.

|             |  |
|-------------|--|
| Physician 2 | How likely is the physician to react in each of the following ways?  |
| Nurse 3     | Now assume that the physician tells you to cancel your order stating “it is inappropriate.” How likely are you to react in each of the following ways?                                   |
| Physician 3 | Now assume that you have decided to argue firmly and forcefully with the physician about the merits of you position. How likely is the physician to react in each of the following ways? |

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**Conflicting Nurse/Physician Orders:** You have given important discharge instructions to your patient. While you are charting in the next room, you overhear the physician (with whom you work most frequently) giving a set of discharge instructions/orders to your patient which conflict with yours. The patient tells the physician that you have given him different instructions and describes them. You know that your instructions are as appropriate or superior to the physician's.

|             |  |
|-------------|--|
| Physician 4 | How likely is the physician to react in each of the following ways?  |
| Nurse 4     | Now assume that the physician sought you out and elicited your ideas. How likely are you to react in each of the following ways?   |
| Nurse 5     | Finally, assume that the physician initially responded by telling the patient to disregard your instructions and follow her/his instructions. How likely are you to react in each of the following ways? |

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version of the inventory was used in this study to keep the overall survey instrument sufficiently brief to ensure an adequate response rate. The 12 items that consistently had loaded heavily on a factor in previous principal components analyses of the full instrument and other versions of the OCI were selected to represent the factor in the abridged OCI used here (Cooke & Szumal, 1993; Human Synergetics, 1986; Shortell et al., 1991).

The 36 items of the OCI were factor analyzed (principal component analysis with varimax rotation) to ascertain whether the factor structure was consistent with that of the full version. The solution was constrained to three factors that explained 47% of the variance and roughly corresponded to the dimensions proposed by Cooke and Lafferty (1989). The 12 constructive items loaded as expected on a single factor. Five of the aggressive items loaded along with 11 of the passive items. Eight of the 12 aggressive items loaded on a third factor, but 2 of those also loaded on the passive factor. The remaining 2 of the 36 items did not obtain the necessary loading of .40 on any of the three factors.

This pattern of factor loadings may be due partly to the relatively small number of respondents providing data for the analysis, or because the abridged version factors differently than the full version. Alternatively, the results could suggest that the "structure" of norms within the nursing profession and hospitals is different than that observed for other occupations and organizations. Because of the atypical loadings obtained, factor scores were calculated and used to represent the three types of normative beliefs in subsequent (regression) analyses. The factor scores were obtained from the factor analysis using principal components extraction and represent standardized exact scores for the three factors each with  $M = 0$  and  $SD = 1$ . A factor score for an individual was computed by multiplying the individual's standardized values for each of the 36 items of the OCI by the corresponding factor score coefficient and summing the resultant 36 values (Norusis, 1990). Reliabilities (alpha coefficients) for the OCI scales as factored in this study were: constructive (.91), passive, (.91), and aggressive, (.73). All items loading above .40 for a factor were included in that subscale; items loading on two factors were included in the factor on which they loaded highest.

The vignettes (Table 1) are descriptions of hypothetical conflict situations for which the first author and five ER nurse clinicians (from the first author's local community) agreed that collaboration

was the most desirable strategy for managing the conflicts. The vignettes were constructed to address the criticism that current measures of conflict styles are too general and do not address specific conflict content, stage of conflict, and response of the opponent (Knapp, Putnam, & Davis, 1988). Three vignettes center on a physician's order, three on a nurse's order, and three on conflicting nurse and physician discharge orders for a patient. The vignettes were pretested for face validity and readability with 15 students enrolled in a master's level nursing course.

Four of the nine vignettes (physician vignettes) assessed the nurse's expectations regarding the physician's use of five conflict management styles; the remaining five (nurse vignettes) assessed the strength of the nurse's intentions to use six conflict styles (Table 1). The conflict style items associated with each vignette were descriptive statements, one for each style, selected and adapted from the Rahim Organizational Conflict Inventory-II (Rahim, 1983b). Response options for the items ranged from 1 (*not likely at all*) to 5 (*almost certain*). The items representing each specific style were worded consistently across vignettes. For example, the item used for physician collaborating is "the physician would exchange information with me (intending to come up with a solution which incorporates both of our concerns)." The same format was adapted and used in the nurse vignettes.

A sixth style, indirect dominating, was assessed in the nurse vignettes because it represents a form of dominating that nurses have been observed to use in conflicts with physicians (Barley, 1986; Cunningham & Wilcox, 1984; Stein, 1967), but is not captured by the dominating style item. The dominating item in a nurse vignette is "I would firmly present my side of the issue (to ensure that my position is adopted)." The item connotes that the nurse will attempt to win his or her position through the use of overt and direct actions. Indirect dominating, on the other hand, involved attempting to win one's position using more subtle tactics. The basic response item assessing the indirect dominating style is "I would take actions that would indirectly result in my position being adopted (trying hard not to offend the physician)."

Physician and nurse scores for each conflict style were obtained by calculating the mean of responses to the items associated with each style from all four physician vignettes and the five nurse vignettes. For example, the physician dominates score is based upon the mean of the responses to the dominating items associated with the four

physician vignettes and the nurse dominates score is based upon the mean of the responses to the dominating items from the five nurse vignettes.

## Procedure

ER nurse managers assisted with distributing a packet to the selected nurses that included the survey instrument and instructions, a letter ensuring confidentiality, and a return envelope addressed to the first author. A second copy of the survey instrument was mailed to nonrespondents from ERs in which the number of returned questionnaires was fewer than five, 1 month after initial distribution.

## Analysis

A general examination of the data revealed a random pattern of missing responses. In subsequent analyses, missing responses were managed through techniques specific to the statistics used: Listwise deletion for the factor analysis, internal consistency reliabilities, descriptive statistics, and stepwise regression, and pairwise deletion for correlations. A series of stepwise regressions were carried out to test the hypotheses; the organizational effects were treated as fixed effects in the analyses to adjust for the hierarchical sampling (nurses nested within organizations; Bryk & Raudenbush, 1992).

## RESULTS

The descriptive statistics are presented in Table 2. Most notable among the statistics is the pattern and rank of the means of the nurse conflict scales and the pattern and rank of the means of the physician conflict scales. These statistics indicate that nurses' strongest conflict style preferences are the other-oriented styles (collaborating, obliging, and compromising), and that the style nurses report that physicians are most likely to use is a self-oriented style (dominating).

The correlation matrix includes partial correlations adjusted for organization and is presented in Table 3. The correlations generally support the first hypothesis. Expectations for the physician to collaborate, compromise, and oblige and constructive norms were associated as predicted. The second hypothesis was not fully supported. An expectation for the physician to avoid was negatively associated with nurse intentions to collaborate as hypothesized, but physician dominates and passive norms were not significantly related. There was a positive association between aggressive norms and nurse collaborates, rather than the predicted negative association.

A number of other correlation patterns are noteworthy. The intercorrelations of the physician conflict styles indicate that the nurse expects the physician to manage conflict with either a self (avoids and dominates) orientation or an other

**Table 2. Descriptive Statistics of Selected Study Variables**

| Variable                   | <i>n</i> | <i>M</i> | <i>SD</i> | Possible range          |
|----------------------------|----------|----------|-----------|-------------------------|
| Nurse collaborates         | 193      | 3.4      | 0.68      | 1-5                     |
| Nurse compromises          | 190      | 3.0      | 0.57      | 1-5                     |
| Nurse obliges              | 192      | 2.9      | 0.62      | 1-5                     |
| Nurse avoids               | 191      | 2.6      | 0.61      | 1-5                     |
| Nurse dominates            | 192      | 2.6      | 0.59      | 1-5                     |
| Nurse indirectly dominates | 189      | 2.3      | 0.66      | 1-5                     |
| Physician dominates        | 192      | 3.5      | 0.66      | 1-5                     |
| Physician collaborates     | 194      | 3.2      | 0.76      | 1-5                     |
| Physician compromises      | 192      | 2.7      | 0.61      | 1-5                     |
| Physician avoids           | 192      | 2.5      | 0.70      | 1-5                     |
| Physician obliges          | 194      | 2.5      | 0.54      | 1-5                     |
| Constructive norms         | 169      | 0.0      | 1.00      | <sup>a</sup> -2.74-2.03 |
| Passive norms              | 169      | 0.0      | 1.00      | <sup>a</sup> -2.17-2.85 |
| Aggressive norms           | 169      | 0.0      | 1.00      | <sup>a</sup> -2.59-3.48 |

<sup>a</sup>Scale scores of the norms were standardized for analysis with a mean of 0 and a standard deviation of 1; Ranges are actual range of standardized values for the variable.

**Table 3. Correlation Matrix of Selected Study Variables**

|                               | 1.     | 2.     | 3.     | 4.     | 5.     | 6.     | 7.     | 8.     | 9.    | 10.    | 11.    | 12.    | 13.   | 14.   | 15.   | 16.   |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|-------|-------|-------|-------|
| 1. Nurse collaborates         | —      | -.74** | .57**  | -.29** | .65**  | .39*   | .48**  | -.28** | -.04  | .31**  | .38**  | .21*   | -.05  | .21*  | .08   | -.06  |
| 2. Nurse avoids               | -.74** | —      | .47**  | .45**  | -.54** | -.30** | -.39** | .39**  | .25** | -.36** | -.40** | -.23** | .10   | -.17  | -.08  | .10   |
| 3. Nurse dominates            | .57**  | -.47** | —      | -.29** | .52**  | .60**  | .34**  | -.07   | .14   | .38**  | .28**  | .15    | -.01  | .25** | .12   | -.17* |
| 4. Nurse obliges              | -.29** | .45**  | -.29** | —      | -.23** | -.19*  | .12    | .07    | .24** | -.05   | -.03   | .06    | .09   | .00   | .01   | .20*  |
| 5. Nurse compromises          | .65**  | -.54** | .52**  | -.23** | —      | .46**  | .39**  | -.28** | -.03  | .35**  | .64**  | .31**  | -.10  | .25** | .16   | -.02  |
| 6. Nurse indirectly dominates | .39**  | -.30** | .60**  | -.19*  | .46**  | —      | .19*   | .03    | .07   | .31**  | .29**  | .22    | .15   | .31** | .22** | -.17* |
| 7. Physician collaborates     | .48**  | -.39** | .34**  | .12    | .39**  | .19*   | —      | -.62** | -.16* | .54**  | .65**  | .22*   | -.12  | .09   | .13   | -.05  |
| 8. Physician avoids           | -.28** | .39**  | -.07   | .07    | -.28** | .03    | -.62** | —      | .27** | -.32** | -.53** | -.11   | .28** | .05   | -.13  | -.03  |
| 9. Physician dominates        | -.04   | .25**  | .14    | .24**  | -.03   | .07    | -.16*  | .27**  | —     | -.15   | -.17*  | -.06   | .11   | .04   | .00   | .02   |
| 10. Physician obliges         | .31**  | -.36** | .38**  | -.05   | .35**  | .31**  | .53**  | -.32** | -.15  | —      | .51*   | .27**  | -.07  | .14   | .20*  | .04   |
| 11. Physician compromises     | .38**  | -.40** | .28**  | .03    | .64**  | .29**  | .65**  | -.53** | -.17* | .51**  | —      | .31**  | -.10  | .14   | .09   | .11   |
| 12. Constructive norms        | .21*   | -.23** | .15    | .06    | .31**  | .22*   | .22*   | -.11   | -.06  | .27**  | .31**  | —      | .10   | -.08  | .09   | .14   |
| 13. Passive norms             | -.05   | .10    | -.01   | .09    | -.10   | .15    | -.12   | .28**  | .11   | -.07   | -.10   | .10    | —     | -.01  | .03   | .05   |
| 14. Aggressive norms          | .21*   | -.17   | .25**  | .00    | .25**  | .31**  | .09    | .05    | .04   | .14    | .14    | -.08   | -.01  | —     | .19*  | -.12  |
| 15. Nurse education level     | .08    | .08    | .12    | .01    | .16    | .22**  | .13    | -.13   | .00   | .20*   | .09    | .09    | .03   | .19*  | —     | .08   |
| 16. Gender                    | -.06   | .10    | -.07*  | .20*   | -.02   | -.17*  | -.05   | -.03   | .02   | .04    | .11    | .14    | .05   | -.12  | .08   | —     |

\* $p \leq .05$ . \*\* $p \leq .01$



(collaborates, compromises, and obliges) orientation. The correlations among the nursing conflict styles indicate that nurses are oriented toward being either proactive or passive in conflict situations with physicians. Level of education correlated positively with nurses' intentions to compromise and indirectly dominate, expectations for physicians to oblige, and aggressive–defensive norms. This combination may indicate that the more educated the nurse, the more prone he or she is to take action in disagreements with physician. The correlations with gender support a pattern others have found (Chanin & Schneer, 1984; Chusmir & Mills, 1989): Female nurses are more likely than male nurses to avoid and oblige, and male nurses are more likely to dominate than their female counterparts.

A stepwise regression was carried out to further test the hypotheses. The analysis took into account the two-level hierarchical design (individuals nested within hospitals) in which the responses of nurses within the same hospital were not assumed to be independent (Bryk & Raudenbush, 1992). In order to compute the variance components of interest, a one-way analysis of variance (ANOVA) model with hospital random effects was fit for the dependent variable, nurse collaborates. The variance components were estimated using the procedure VARCOMP in SAS. The total variance of the dependent variable is comprised of the variance component due to differences between hospitals and the variance component due to individual differences within hospitals. Because most of the variance was accounted for by individual differences within hospitals, we chose to model only the within-hospital variance. This was accomplished by starting with a base model that included hospital effects, followed by stepwise entry of the 10 independent variables: the five physician conflict composite scores; the three factor scores on the constructive,

passive–defensive, and aggressive–defensive norms; gender; and level of nursing education. The within- and between-organization variances are summarized in Table 4, and the regression results with nurse collaborates and the other nurse conflict styles as dependent variables are shown in Table 5. The betas reported are based upon the within-organizations standard deviations of the dependent and independent variables. The multiple correlations squared ( $R^2$ ), are partial, adjusted for the block of hospital effects.

The regression analyses provide partial support for the study hypotheses. Thirty-two percent of the variance in nurse intentions to collaborate is explained by the combination of physician's expected style and normative beliefs. Nurses' expectations for the physician to collaborate and strong aggressive normative beliefs had a significant impact on nurse intentions to collaborate, with strong constructive normative beliefs exerting a considerable but lesser impact. Weak aggressive normative beliefs were predicted to be associated with nurse collaborates. Physician collaborates had a larger beta than aggressive normative beliefs, suggesting that an expectation for the physician to collaborate has a greater influence on nurse intentions to collaborate than do perceived norms. In secondary regression analyses (those in which the other nurse conflict styles were entered as dependent variables), the physician's style also was found to be more important than perceived norms. Strong aggressive normative beliefs, however, were found to be a consistent influence on nurse intentions to use all of the proactive conflict styles. When the physician is expected to either generally collaborate or generally compromise, the nurse reported strong intentions to reciprocate with the same style. Neither gender nor education were significant predictive variables in the primary regression; however, gender was a significant variable in several of the secondary regressions.

**Table 4. Variance Accounted for by Organizations**

| Dependent Variable         | Variance Between | Variance Within | % Variance Accounted for by Organizations |
|----------------------------|------------------|-----------------|---|
| Nurse collaborates         | .07              | .39             | 15.85                                     |
| Nurse compromises          | .02              | .31             | 6.14                                      |
| Nurse dominates            | .00              | .34             | 0.04                                      |
| Nurse indirectly dominates | .01              | .42             | 1.55                                      |
| Nurse avoids               | .03              | .34             | 8.57                                      |
| Nurse obliges              | .03              | .36             | 7.00                                      |

Note: % variance accounted for by organizations = (variance between)/(variance between + variance within) × 100.

**Table 5. Results of Stepwise Regressions**

| Dependent Variable<br>Independent Variables | $\beta$ | $SE\beta$ | $\beta$ | $T$   | $p$  |
|---|---------|-----------|---------|-------|------|
| Nurse collaborates ( $R^2 = 34\%$ )         |         |           |         |       |      |
| Physician collaborates                      | .41     | .07       | .46     | 5.85  | <.01 |
| Aggressive–defensive norms                  | .17     | .05       | .27     | 3.44  | <.01 |
| Constructive norms                          | .10     | .05       | .15     | 1.93  | .06  |
| Nurse compromises ( $R^2 = 46\%$ )          |         |           |         |       |      |
| Physician compromises                       | .52     | .07       | .53     | 7.24  | <.01 |
| Aggressive–defensive norms                  | .13     | .04       | .24     | 3.50  | <.01 |
| Constructive norms                          | .11     | .04       | .20     | 2.72  | .01  |
| Nurse dominates ( $R^2 = 20\%$ )            |         |           |         |       |      |
| Physician collaborates                      | .37     | .09       | .46     | 4.10  | <.01 |
| Physician avoids                            | .21     | .10       | .24     | 2.13  | .04  |
| Aggressive–defensive norms                  | .10     | .05       | .18     | 2.07  | .04  |
| Gender                                      | -.33    | .16       | -.18    | -2.14 | .04  |
| Nurse ind. dominates ( $R^2 = 29\%$ )       |         |           |         |       |      |
| Gender                                      | -.57    | .16       | -.30    | -3.52 | <.01 |
| Physician avoids                            | .31     | .10       | .34     | 3.16  | .01  |
| Aggressive–defensive norms                  | .12     | .05       | .21     | 2.38  | .02  |
| Constructive norms                          | .13     | .06       | .19     | 2.28  | .02  |
| Physician obliges                           | .26     | .12       | .22     | 2.19  | .03  |
| Physician collaborates                      | .20     | .10       | .23     | 1.97  | .05  |
| Nurse avoids ( $R^2 = 31\%$ )               |         |           |         |       |      |
| Physician collaborates                      | -.30    | .07       | -.35    | -4.32 | <.01 |
| Aggressive–defensive norms                  | -.13    | .05       | -.21    | -2.71 | .01  |
| Physician dominates                         | .18     | .08       | .19     | 2.36  | .02  |
| Constructive norms                          | -.11    | .05       | -.16    | -2.08 | .04  |
| Nurse obliges ( $R^2 = 8\%$ )               |         |           |         |       |      |
| Gender                                      | .42     | .18       | .22     | 2.35  | .02  |
| Physician dominates                         | .17     | .09       | .18     | 1.98  | .05  |

Note: Ten independent variables were entered in each of the regressions: five physician conflict styles, three norm sets, education of nurse, and gender of nurse. Listed in the table are the independent variables with  $T$  significance level of .05 or less (exception is constructive norms for nurse collaborates,  $p = .06$ ).

The  $R$  squares are partial, adjusted for the block of hospital effects. That is,  $R^2 = (SSE1 - SSE2)/SSE1$ , where  $SSE1$  is the error sum of squares for the model containing only the block of hospital effects and  $SSE2$  is the error sum of squares for the full regression model.

## DISCUSSION

The findings provide support for the use of the theoretical model to explain nurse intentions to collaborate, as opposed to adopting other styles to manage conflicts conducive to nurse–physician collaboration. The styles the nurse expects the physician to use and the nurse’s perception of work group norms also explain a moderately large amount of variance in nurse intentions to use the other conflict styles (25–50%), with the exception of obliging (12%). In general, when the nurse perceives (a) that the physician regularly manages nurse–physician conflicts with other-oriented styles (collaborating, compromising, obliging), and (b) that the work group norms support both strong constructive and aggressive–defensive behaviors, then the nurse is very likely to use proactive

conflict strategies to manage nurse–physician conflicts. Conversely, when the nurse perceives (a) that the physician regularly manages nurse–physician conflicts with self-oriented styles (dominating, avoiding), and (b) that constructive and aggressive–defensive norms are weak, the nurse is very likely to use avoiding to manage conflicts.

A strong expectation for the physician to collaborate is a particularly important condition associated with a strong intention on the part of the nurse to collaborate with the physician. This supports past findings and is reasonable, given that one cannot collaborate with another unless both agree to collaborate. Secondarily, but of major import, is the finding that nurse perceptions of the strength of both aggressive–defensive and constructive norms appear to exert a significant influence on a nurse’s decision to take action or to

avoid in a conflict situation with the physician. These two types of normative beliefs are positively associated with nurse intentions to use all of the active styles (collaborates, compromises, dominates, and indirectly dominates) and negatively associated with nurse intentions to avoid. Strong constructive norms—those that encourage organizational members to meet needs for achievement, self-actualization, concern for others, and affiliation—were hypothesized to be associated with intentions to collaborate. In contrast, strong aggressive–defensive norms—those that embody expectations that members act in more oppositional and assertive ways to protect their status—were expected to be negatively related to intentions to collaborate. The significant positive relations of strong aggressive–defensive norms to the proactive conflict styles are, nonetheless, reasonable.

As was noted earlier, nurses traditionally have been socialized to act deferentially toward physicians (Fagin, 1992; Prescott & Bowen, 1985; Prescott et al., 1987; Stein et al., 1990; Weiss, 1983, 1985). Nurses may have learned, however, through attempts to participate more fully in decision making, that conveying ideas in a deferential manner results in the ideas being readily dismissed. In contrast, when nurses have conveyed ideas in a forceful and confrontational manner they may have found physicians more receptive and willing to collaborate. These experiences could lead nurses to believe they are implicitly required to behave in aggressive ways at times to engage physicians in collaboration. Forceful and confrontational behaviors, however, have a negative connotation and are seemingly incompatible with the caring image of the nurse. For this reason, nurses are likely to avoid using such behaviors. Aggressive and assertive behaviors, however, are not necessarily uncaring behaviors. Conflicts most conducive to collaboration are those for which there is no known right solution (Gray, 1989). When nurses and physicians collaborate on patient care conflicts, their actions affect not only each other but, more importantly, the patient. Therefore, it is appropriate and necessary at times to be forceful and firm in presenting alternative ideas to ensure that others fully understand and assess those ideas before dismissing them.

The findings also provide evidence that nurses and physicians are not routinely collaborating with each other in conflict situations conducive to collaboration. The nurse respondents expect physicians most frequently to dominate, whereas the nurses indicated their intentions to collaborate in the same situations. Although the nurse may desire

and intend to collaborate with the physician, collaboration cannot occur if the physician fails to reciprocate. Alternatively, nurses and physicians may actually believe themselves to be collaborating with each other when, in fact, their behavior is just a variation of the dominant deference pattern.

The findings suggest that nurse–physician collaboration may be enhanced by training and supporting nurses to use forceful and confrontational behaviors appropriately. It is clear that the major impediment to nurse–physician collaboration is the imbalance of power between the two professions. The essence of collaboration is balanced power among willing participants who recognize each other's mutual value (Gray, 1989). Physicians need to become less dominant and nurses less deferential in order to collaborate. Although an increase in the control exercised by one party does not necessitate decreased control by the other (Tannenbaum, 1974), physicians might feel that less dominant and more collaborative behavior would threaten their power. Therefore, to gain physician support and participation, it is critical to demonstrate that the benefits of collaborating outweigh any anticipated loss of power. One way this might be done is to demonstrate that the outcomes achieved through collaborating on a conflict are superior to those achieved using other conflict management strategies.

Nurses and physicians motivated to collaborate with each other can be targeted to participate in interventions designed to test the appropriate and effective use of nurse–physician collaboration. An intervention should include: (a) identifying a conflict issue conducive to nurse–physician collaboration; (b) teaching nurses and physicians how to collaborate with one another; (c) facilitating nurse–physician collaboration on a real conflict; and (d) evaluating the outcomes achieved. Both nurses and physicians should participate actively in the intervention. The training and development component can focus on helping nurses learn to communicate more assertively and effectively (Tingley, 1994, 1996) and on helping physicians learn when and how to listen more actively and empathically (Covey, 1989). Role-playing might be used to illustrate how nurses defer and physicians dominate without conscious realization and to practice collaborative skills.

Congruence of nurse and physician perceptions of themselves, each other, and their work problems and needs (Georgopoulos, 1986) should be assessed. Individuals do act on their perceptions, but these perceptions are not always accurate. For example, the nurse and physician might believe they are working toward a common goal but, be-

cause of failure of both to articulate the means and objectives of care, the nurse may be working toward a peaceful death whereas the physician is working toward death avoidance. This study did not include the physician's perspective; it will be important to verify that nurses are interpreting physician communication in the manner intended by the physician and vice versa. It is not clear that nurses and physicians define collaboration in the same manner (Coeling & Wilcox, 1994). Should incongruencies exist, they must be addressed and/or reconciled before implementing other aspects of a conflict management intervention.

Nurses and physicians then can be assisted to collaborate with each other on an identified issue and the outcomes of the effort systemically evaluated. If an intervention produces collaboration and achieves superior outcomes, it will serve to motivate nurses and physicians to use collaboration as an appropriate strategy to address mutual conflicts and complex issues.

A number of limitations should be considered in interpreting these data. First, the perceptions of this sample of ER nurses may not reflect the perspectives of nurses from other specialties. Second, the design of the study was cross-sectional and direction of causation cannot be demonstrated conclusively. Previous research and theory, however, provide support for the direction of causation asserted here. Third, hypothetical vignettes were used to assess the conflict constructs in this research. Although the conclusions are not based on observations of actual behavior, the vignettes were used to approximate actual conflict behavior more closely than existing general conflict style instruments. Further study, however, is required to validate this assumption.

A fourth limitation is that the abridged version of the OCI did not factor in a manner completely consistent with the full-length instrument. It is recommended that the full version of the OCI be used to measure the three sets of norms for similar studies conducted in the future. In addition, data collected using the full-length version should be analyzed to determine if the structure of norms is different in nursing units than in other types of organizations.

Another limitation is that nurses' preferences for using the obliging conflict style are not well explained by the theoretical framework. Although gender of the nurse and the physician's style were found to have a significant influence on the nurse's preference for obliging, the combination of these variables explains a very small amount of variance (12%). It seems feasible to assume that nurse obliging in a situation conducive to collaboration

is associated with traditional deference norms; however, further research is needed. In conclusion, it is recommended that follow-up research be focused primarily in three areas: (a) identification of specific nurse-physician conflict situations conducive to collaboration; (b) design of collaborative interventions; and (c) evaluation of the effectiveness of the interventions relative to increasing collaboration and producing desired patient outcomes.

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