The Association of Physician Socio-Communicative Style with Physician Credibility and Patient Satisfaction

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This study examined the relationships of physician socio-communicative style variables (assertiveness and responsiveness) with patients' perceptions of the physician's credibility (competence, trustworthiness, goodwill/caring) and patients' satisfaction with their physician and the quality of medical care they received. Results indicated that both dimensions of socio-communicative style were associated with all dimensions of physician credibility, that physician credibility was highly associated with patients' satisfaction, and that responsiveness was highly associated with patient satisfaction. Results are interpreted as supporting the underlying theory of socio-communicative style and indicating that socio-communicative style is an important component of physician-patient communication.

Over the past two decades, physicians individually, and Health Maintenance Organizations (HMOs) and other medical delivery systems collectively representing physicians, have become increasingly sensitive to patients' affective reactions to individual physicians and to medical care in general. Although these affective reactions have been conceptualized and measured in many ways, they have come to be commonly known as "patient satisfaction."

It is now acknowledged by most medical professionals that patients who are not

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satisfied with either their physician or their health care generally are less likely to continue to seek the service of their physician or to continue their membership in their HMO. More importantly (for the medical professional, at least), these dissatisfied patients are seen as the ones who are most likely to pursue legal action when they perceive they have been in some way harmed by either their physician, their HMO, or their hospital. Recent research has confirmed that physician/patient communication plays a vital role in determining these affective responses (Richmond, Smith, Heisel, & McCroskey, 1998, 2001).

In the first of these studies (Richmond et al., 1998), it was speculated that patients' trait communication apprehension might have an important impact on their satisfaction with their physician. Although that was not found to be the case, it was determined that patients' situational fear of the physician was negatively associated with their satisfaction. It was speculated that communication behaviors of the physician (such as nonverbal communication behaviors) were more likely to be causes of the fear experienced by patients than was their apprehension trait.

In the second study (Richmond et al., 2001), it was hypothesized that physicians' levels of nonverbal immediacy in interacting with their patients would be negatively associated with patients' apprehension about communicating with their physician, and that the nonverbal immediacy of the physicians would also be positively related to patients' satisfaction with their physician and their medical care in general. These hypotheses were confirmed with substantial variance (12-30 %) accounted for.

This research demonstrated that communication behavior of physicians can play an important role in patients' satisfaction. However, it did so with a single set of nonverbal message variables, those commonly referred to as "nonverbal immediacy." The current study sought to take a broader view of physician communication behavior. The mechanism employed to do this was the conceptualization of socio-communicative style (SCS) and socio-communicative orientation (SCO) advanced by McCroskey and Richmond (1996).

Both SCS and SCO are seen as traits of an individual which are manifested by a variety of communication behaviors. SCO is one's perception of her/his own communication orientations. SCS is based on another (or many other) person's perceptions of a person's communication behaviors. The two measurable, typically uncorrelated, components of both SCO and SCS are assertiveness and responsiveness—orientations which are manifested through a variety of communication behaviors. Although it would normally be assumed that an individual's self-reported orientations would be positively and substantially correlated with the average of several reports of their behaviors by others, it is recognized that it is possible for people to modify their communication behavior in ways which will result in other people seeing their orientations in more (or less) desirable ways. Hence, a physician who is not really a responsive person could learn to communicate in ways that would lead others to perceive her/him as being more responsive to their communication. Hence, the concern of this study was with the SCS of physicians as reported by their patients, not the SCO reports of physicians themselves.

The conceptualization of socio-communicative style just described is the most recent of many analyses of human communication from a Jungian perspective. Earlier constructs include "personal style" (Merrill & Reid, 1981), "social style" (Lashbrook,

1974), and "psychological androgyny" (Bem, 1974). The SCS approach links communication style directly with communication competence: People who communicate in both an assertive and a responsive manner are labeled "competent," those who can communicate with only one of these characteristics are labeled "partially competent," and those who can not communicate in either of these ways are labeled "incompetent." (For an overview of much of the research in this area, see Richmond and Martin, 1998).

In the previous research noted above (Richmond et al., 2001), the nonverbal immediacy of physicians was found to be substantially associated with patients' satisfaction with both their physician and the medical care they received—the more immediacy, the more satisfaction. In previous research focused on the socio-communicative style of teachers (Thomas, Richmond, & McCroskey, 1994), both dimensions of SCS were found to be significantly correlated with teachers' nonverbal immediacy (although assertiveness and responsiveness were not significantly correlated with each other). Higher assertiveness and responsiveness were both associated with higher nonverbal immediacy.

The combination of the results from these studies lead to our first hypothesis:

H1: Assertiveness and responsiveness are positively correlated with patient satisfaction.

Whereas the first concern of this study was with patient satisfaction, the second concern was directed toward the patients' perceptions of the credibility of their physicians. It is important that patients see their physician as credible; if they do not, they are less likely to follow their physician's instructions with regard to important matters such as how and when to take their medications. It is estimated that nation-wide over half the people who fill prescriptions do not follow the physician's instructions that accompany those prescriptions. One of the most serious concerns of both physicians and pharmacists is establishing their credibility with their patients so as to reduce patient non-compliance with medical instructions.

Source credibility and effective communication have been theoretically linked since the writings of Aristotle and that linkage is consistently reinforced by contemporary research (e.g., McCroskey, 2001; McCroskey & Teven, 1999). Each of the three dimensions of credibility (competence, trustworthiness, and goodwill/caring) have been demonstrated to be substantially associated with important communication outcomes. In the case of physicians, all three appear highly related to whether patients (a) will choose a particular physician, (b) believe what that physician says, and (c) perceive that the physician is a caring, concerned medical provider.

Given that higher scores on both assertiveness and responsiveness have been associated with increased communication competence, it should follow that both of these should be associated with more positive perceptions of physicians' credibility. Hence, we advanced the following hypothesis:

H2: Assertiveness and responsiveness are positively correlated with each of the dimensions of source credibility for physicians.

Since this line of thinking also suggests that physicians who are seen as more cred-

ible should generate more patient satisfaction, we advanced a third hypothesis:

H3: All three dimensions of source credibility are positively associated with patient satisfaction.

METHOD

Participants

Participants were 286 patients from physicians' offices in medical centers in a mid-Atlantic state. The sample was a convenience sample which included 136 males and 150 females. The mean age was 35.31 (ages 21-81). All participation took place in physicians' outer-offices following a visit to the physician. As a patient was leaving the physicians' office, a receptionist handed the patient a survey to complete concerning the physician they had just visited. Participation was voluntary, if the patient elected to complete the questionnaire, he or she placed the response in a box near the exit door.

Participants were asked by the exit staff "If you have the time, would you please complete this questionnaire about physician/patient communication." Then the questionnaire was handed to the exiting patient. Since the staff was not informed of the nature of the study, if asked for help they were not in a position to answer with anything more than explaining how to complete the instrument or what certain words might mean. The written instructions requested that the participants not identify either the physician or themselves on the questionnaire. Data were collected over a period of 6 weeks, but data collection at any given location was limited to 1 week. These procedures were very similar to those used in previous studies (Richmond et al., 1998, 2001) and were based on the method used to obtain satisfaction feedback by an HMO in the same area. A total of 350 questionnaires were distributed and 286 usable questionnaires were returned (response rate = 82 %).

Instruments

Socio-Communicative Style. The Assertiveness-Responsiveness Measure (ARM: Richmond & McCroskey, 1990) was employed to measure the two dimensions of SCS. This instrument has been used in all previous studies involving SCO and SCS. It includes 20 items which briefly describe communication behavior (10 for each dimension) each with a 5-point response option. The alpha reliability estimates for assertiveness and responsiveness scores for this study were .84 and .94, respectively. Scales were scored so the higher scores reflect higher assertiveness or responsiveness.

Source Credibility. The three dimensions of source credibility were measured with 18 bi-polar scales originally developed by McCroskey (1966) and revised and validated by McCroskey and Teven (1999). Each dimension is measured by six bi-polar, seven-point scales. Scales are reflected so that higher scores represent higher credibility. The alpha reliability estimates for this study were: competence, .87; trustworthiness, .87; goodwill/caring, .94. These are consistent with previous reliability estimates. Scales were scored so that higher scores reflect higher credibility.

Satisfaction with Quality of Medical Care and Physician. The two satisfaction measures employed by Richmond et al. (1998, 2001) were also employed in the current investigation. The Perceived Quality of Medical Care (PQMC) was employed to measure general satisfaction with the medical care received. This measure includes 6 bi-polar scales

with 7-point response options. It is scored so that higher scores represent higher satisfaction. The alpha reliability estimate for this instrument in this study was.93. The Satisfaction With Physician (SWP) instrument was employed to measure the affect of patients toward their physicians. This measure includes 3 bi-polar scales with 7-point response options. It is scored so that higher scores represent higher satisfaction. The alpha reliability estimate for this instrument in this study was .95. The alpha reliabilities obtained for both satisfaction instruments were consistent with those reported in previous research.

RESULTS

The means and standard deviations of all the measures are reported in Table 1. The initial analysis of the data involved computing the correlations among all of the variables. The results of this analysis is reported in Table 2. All of the obtained correlations were significant ($p < .001$) except for the correlations of assertiveness with (a) responsiveness, (b) satisfaction with medical care, and (c) satisfaction with physician.

TABLE 1
Descriptive Statistics

Measure	Mean	Standard Deviation	Obtained Range	Possible Range
Socio-Communicative Style				
Assertiveness	34.3	5.8	14-50	10-50
Responsiveness	40.4	7.7	12-50	10-50
Physician Credibility				
Competence	37.4	5.2	12-42	6-42
Trustworthiness	36.6	5.6	11-42	6-42
Goodwill/Caring	34.4	6.8	8-42	6-42
Patient Satisfaction				
With Physician	18.4	3.5	3-21	3-21
With Care	36.1	6.6	6-42	6-42

TABLE 2
Simple Correlations

	Assertiveness	Responsiveness	Competence	Trustworthiness	Goodwill/Caring	PQMC
Responsiveness	.03[ns]					
Competence	.28	.59				
Trustworthiness	.23	.64	.70			
Goodwill/caring	.22	.78	.71	.82		
PQMC	.07[ns]	.73	.74	.70	.81	
SWP	.04[ns]	.66	.71	.71	.77	.88

[ns] indicates correlation is not significant at $p < .05$ level. All other correlations are significant at $p < .01$ level.

Our first hypothesis (that both assertiveness and responsiveness are positively correlated with patient satisfaction) was supported by the correlations of responsiveness with both satisfaction variables, $r = .73$ for PQMC; $r = .66$ for SWP, but was not supported by the correlations of assertiveness with these satisfaction variables. Responsiveness accounted for substantial variance in both satisfaction variables; assertiveness

accounted for none.

Our second hypothesis (that assertiveness and responsiveness are positively correlated with each of the dimensions of source credibility for physicians, was supported by the correlations of responsiveness with all three source credibility scores, r = .59 for competence; r = .64 for trustworthiness; r = .78 for goodwill/caring). The hypothesis received modest support by the correlations of assertiveness with the three source credibility scores r = .28 for competence; r = .23 for trustworthiness; r = .22 for goodwill/caring). Responsiveness accounted for substantial variance in source credibility (35-61 %); assertiveness accounted for much less (5-8 %).

Our third hypothesis (that all three dimensions of source credibility are positively correlated with patient satisfaction) was supported by all of the correlations with PQMC, competence, r = .74; trustworthiness, r = .70; goodwill/caring, r = .81. The same was true for all of the correlations with SWP, competence, r = .71; trustworthiness, r = .68; goodwill/caring, r = .77. Each of the credibility variables accounted for substantial variance on both of the satisfaction measures (46-66 %).

Although these preliminary analyses suggested that the hypotheses were generally supported, given that the hypotheses each posed a relationship of one set of scores with another set of scores, the most appropriate analysis for testing those hypotheses was canonical correlation analysis. Hence, such analysis was conducted.

Our first hypothesis predicted a positive relationship between SCS and patient satisfaction. The analysis of these data yielded a single significant canonical variable, F = 74.92, p < .0001, which had a corrected canonical correlation of .73. The second canonical variable was not statistically significant, F = .40. Table 3 reports the correlations of the measures involved in each set with each of the canonical variables. Responsiveness, satisfaction with care, and satisfaction with physician all were highly correlated with the significant canonical variable. Assertiveness also had a small correlation with that canonical variable. Assertiveness had a strong correlation with the non-significant canonical variable and satisfaction with physician had a moderate correlation with that canonical variable. Clearly, as suggested by the simple correlations, the association of these two sets of measures was a function of the strong relationship between responsiveness and patient satisfaction. Assertiveness did not participate meaningfully in this relationship.

TABLE 3
Correlations with Canonical Variables: SCS and Satisfaction

	Variable 1	Variable 2*
SCS		
Assertiveness	.24	-.97
Responsiveness	.99	.00
Satisfaction		
PQMC	.99	-.07
SWP	.91	.41

* The second canonical variable was not statistically significant.

The second hypothesis predicted a positive relationship between SCS and the source credibility of the physician. The analysis of these data yielded two significant canonical variables. The first variable $F = 68.64$, $p < .0001$, had a corrected canonical correlation of .78. The second variable, $F = 5.33$, $p < 01$, had a corrected canonical correlation of .18. Table 4 reports the correlations of the measures involved in each set with each of the canonical variables. Responsiveness and all three source credibility dimensions demonstrated substantial correlations with this variable; assertiveness did not. In contrast, assertiveness demonstrated a substantial correlation with the second canonical variable, as did the competence component of source credibility. These results offer important information that was not available from the simple correlational analyses: Although as those correlations indicated that responsiveness had a strong relationship with all three components of source credibility, the contribution of assertiveness to the relationship between SCS and credibility of assertiveness is its association with competence alone. Responsive physicians are seen as more credible on all three dimensions of credibility; assertive physicians are seen as more competent, but not necessarily more trustworthy or caring.

The third hypothesis predicted a positive relationship between physician credibility and patient satisfaction. The analysis of these data yielded a single significant canonical variable, ($F = 101.27$, $p < .0001$), which had a corrected canonical correlation of .85. The second canonical was not statistically significant, $F = .34$. Table 5 reports the correlations of the measures involved in each set with each of the canonical variables. As indicated in that table, all of the source credibility variables and both of the satisfaction measures had their primary correlations with the first canonical variable, and all of those correlations were substantial.

TABLE 4
Correlations with Canonical Variables: SCS and Credibility

	Variable 1	Variable 2
SCS		
Assertiveness	.29	.96
Responsiveness	.99	-.06
Physician Credibility		
Competence	.76	.62
Trustworthiness	.83	.27
Goodwill/Caring	.99	-.07

TABLE 5
Correlations with Canonical Variables: Credibility and Satisfaction

	Variable 1	Variable 2*
Physician Credibility		
Competence	.88	.25
Trustworthiness	.84	.41
Goodwill/Caring	.96	.16
Satisfaction		
PQMC	.99	-.15
SWP	.94	.34

* The second canonical variable was not statistically significant.

DISCUSSION

The results of this research indicate that physicians' socio-communicative style is strongly associated with both patients' perceptions of their credibility and with patients' satisfaction with both their physician and the care they receive. The impact of physician responsiveness is particularly strong. Associations of responsiveness with all of the criterion variables, all credibility variables and both satisfaction variables, as well as all of the primary canonical variables were very high. Clearly, a physician who is perceived as exhibiting a responsive communication style is seen as much more credible than one who is not, and patients are much more satisfied with those physicians than they are with less responsive ones.

On the basis of the analyses directly examining the association between physician assertiveness and patient satisfaction, it appears that assertiveness was simply not associated with patient satisfaction. The simple correlations were small and not statistically significant and the association with relevant canonical variable was small. Although this may suggest that physician assertiveness is not directly associated with patient satisfaction, it appears likely that there may be an indirect association. An association between assertiveness and physician competence generated a significant canonical variable when we examined the association between SCS and physician credibility. In analyzing the association between credibility and satisfaction, all three credibility dimensions were found to be substantially associated with satisfaction.

The findings of the present study support the speculation made from previous research that physicians' communication, particularly their communication style, has a substantial association with patients' satisfaction. To the extent that physicians, hospitals, and HMOs are concerned with patients' satisfaction, successful efforts to improve physician-patient communication may yield very positive results. The need for improvement is clearly indicated if we are to accept the data obtained in this study as representative of the broader medical spectrum. A substantial portion of the patients participating in this study were not satisfied with either their physician or the care they received. In addition, many of these patients saw their physicians as low in competence, untrustworthy, and/or uncaring.

These findings also provide considerable support for the SCS-based theory that communication style is strongly associated with communication competence. To the extent that patient satisfaction is an indicator of competent physician communication, the results of this study show that SCS is reflective of that competence.

Future research is needed to examine the impact of SCS on patient compliance behavior, the other major outcome desired by the medical system which is presumably dependant upon effective physician-patient communication. The design of the present study did not permit the collection of that important data. It may well be that the assertiveness component of SCS has less effect on patients' affective responses than it does on their behavioral responses. It may well be that patients' perceived competence of the physician (which is associated meaningfully with assertiveness) is the critical factor in patient compliance behavior.

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