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Predicting Physician Communication Competence by Patient Perceived Information Exchange and Health Locus of Control

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Abstract

This study examined the impact of information exchange and patient health control expectancies on perceptions of physician communication competence. One hundred ninety-nine patients completed measures of information exchange, health control expectancies and perceived physician communication competence while waiting to see a physician. Results indicated that patient perceived relationship quality is a strong predictor of physician communication competence. The results indicate the need for researchers to account for contextual factors surrounding the medical encounter to better explain the patient/physician relationship.

Predicting Physician Communication Competence by Patient Perceived Information Exchange and Health Locus of Control

The investigation of health-care provider communication competence and skill is still a relatively new endeavor for social scientists. In less than two decades, scholars have amassed a plethora of findings indicating the benefits of competent and skillful communication on the part of both patient and provider (see Thompson & Parrott, 2002). One of the motivating factors in the investigation of the patient-provider relationship lies in the bottom line outcomes for the physician. For example, Fielding (1997) found that of patients who filed suit against their physician, 68% cited communication related causes (e.g., lack of empathy, poor sender and/or receiver oriented communication skills etc.). The perceived wrong, in this case, is not in the practice of medicine as much as in the practice of communication. This is exemplified in a study conducted by Cole (1997) indicating that of the 1% of patients who develop medical complications due to negligence, only 3% of those actually filed law suits.

The specific behaviors that constitute competent communication have never been standardized across researchers but particular molecular behaviors have been identified to statistically differentiate patients that sue from those who do not. More specifically, physicians who serve as health educators (as opposed to simply relaying diagnostic information), utilize appropriate humor expression, encouraging patient input and feedback, and use clarification strategies to ensure proper perspective taking experience less malpractice litigation (Levinson, Roter, Mullooly, Dull, & Frankel, 1997). These are but a few of the micro-behaviors that constitute competent physician communication.

There is still varying perspectives as to whether effective communication is a function of physician personality characteristics (Horsfall, 1998) or a function of adapting to the contextually bound "type" of medicine being practiced (Tickle-Degnen, 1998). For example, communication skills required as an oncologist should differ from those of a general internist. However conceptualized, the notion of physician communication competence is primarily a perceptual construct that is determined by self-report or more importantly, with regard to outcomes such as litigation and treatment satisfaction, the patient's perspective (Fielding, 1997; Koehler, Fottler, & Swan, 1992).

Information Exchange and Perceived Control

Efforts focusing on patient competence with regard to message exchange have garnered some attention from researchers. In fact, information giving has been of particular focus for scholars (see Thompson & Parrott, 2002). Blum and Blum (1991) report that the exchange of information is most important during specific aspects of the treatment experience such as disease diagnosis, disease progression, and pain management. In accounting for patient communication characteristics and information giving, Street (1991) found that patients who express more negative affect toward the encounter actually receive more information.

The effective exchange of information is believed to be a primary function of the medical interview (Cegala, 1997). Cegala, McGee, and McNeilis (1996) found that information exchanged between physician and patient takes one of four forms consisting of seeking information (i.e., communication messages and strategies designed to acquire new medical information), giving information (i.e., revealing or disclosing information about physical, cognitive, or affective states), verifying information (i.e., engaging in communication exchanges designed to increase understanding or clarification), or socio-

emotional support (i.e., communicating to provide comfort or caring for the other person) (Cegala, 1997; Cegala, & Broz, 2003; Johnson, 1996).

More recently, Avtgis, Brann, and Staggers (2006) studying health control expectancies and information exchange found that the specific reason for the medical interview (i.e., medical context) influences the types of information that people exchange. More specifically, when in an emergency room interview, patients who have internal control expectancies report high levels of information giving and information verifying whereas in the scheduled visit context, patients high in chance control reported giving little information to the physician. As this and a myriad of other studies indicate (see Brenders, 1989), patient expectancies for health control have a great impact on other perceptual constructs.

Health control expectancies have been of interest to researchers in explaining how patients react to a variety of medically related phenomena (e.g., intervention, diagnosis, treatment, etc.). Health locus of control researchers primarily distinguish between internal control (i.e., patients who believe they are an active agent in their treatment and overall health), chance control (i.e., patients believe that luck or fate are the primary determinants of health), and powerful other control (i.e., patients believe that doctors, nurses, pharmacists etc. control health outcomes) (Lefcourt, 1981).

Research has focused on how perceived health control influences message centered constructs. More specifically, seeking, assimilating, and retaining information accounts for most of these efforts (see Brenders, 1989). Overall, results show the proactive nature of people with internal health control expectancies regarding the information seeking (DeVito, Bogdanowicz, & Reznikoff, 1982; Wallston, Maides, & Wallston, 1976).

The current study sought to investigate how patient personality characteristics toward health (i.e., health locus of control) combined with perceived behavior (i.e., information exchange with physicians) influence how patients perceive the communication competence of physicians in general. Therefore, the following hypotheses were forwarded:

H1a: Belief in internal and powerful other health control expectancies will significantly predict increased physician communication competence.

H1b: Belief in chance health control expectancies will significantly predict decreased physician communication competence.

H2: Increased levels of information seeking, information giving, information verification, and socio-emotional support will significantly predict increased physician communication competence.

Method

Participants

Participants in this study completed the Multidimensional Health Locus of Control Scale (Wallston, Wallston, & DeVellis, 1978), the Cegala, Coleman, and Turner (1998) Medical Communication Competence Scale (MCCS), the Communication Competence Scale (Wiemann, 1977), and a set of demographic questions.

Two hundred patients waiting for medical treatment from a plastic surgery group participated in this study. More specifically, 63 men (31.7%) and 133 (66.8%) women participated in this study. Four people (1.5%) did not indicate sex. The mean age of the patients was 47.12 years ($SD = 17.5$) and the ages ranged from 4 years to 85 years.

Procedures

Data collection occurred at a plastic surgery facility in the mid-western United States. This organization is predominately a reconstructive plastic surgical group, more closely paralleling a general surgical practice than a cosmetic surgical practice with a strong emphasis on hand surgery.

Patients for the current investigation were asked upon check-in to the medical facility if they would be willing to complete a series of questionnaires regarding patient-physician interaction while waiting for treatment. In the case of under-aged patients, parents/guardians were asked to orally administer the questionnaire. Upon agreement to participate, each patient was provided with materials (cover letter, and measures) as well as an envelope (with no marks as to identify the specific patient) that was to be sealed upon completion of the questionnaire and dropped off in a secured location. This resulted in 200 complete questionnaires.

Instrumentation

The Wallston et al. (1978) Multidimensional Health Locus of Control Scale (MHLC) is a three dimension, 36-item measure presented in a 5-point Likert-type format with responses ranging from 1: *strongly disagree* to 5: *strongly agree*. The measure is comprised of three health control dimensions of internal control, chance control, and powerful other control. Cronbach alpha estimates for the internal, chance, and powerful other dimensions were .86 ($M = 30.15$, $SD = 6.17$), .81 ($M = 40.25$, $SD = 6.97$), and .83 ($M = 36.52$, $SD = 7.36$) respectively.

The Medical Communication Competence Scale (MMCS) developed by Cegala et al. (1998) is a four dimension, 16-item measure presented in a 5-point Likert-type format ranging from 1: *strongly agree* to 5: *strongly disagree*. The MMCS contains dimensions of information seeking, information giving, information verification, and socio-emotional support. Cronbach alpha estimates for the four dimensions were .87 ($M = 5.81$, $SD = 2.19$), .90 ($M = 9.87$, $SD = 3.18$), .90 ($M = 8.94$, $SD = 3.25$), and .78 ($M = 3.33$, $SD = 1.19$) respectively.

The Communication Competence Scale (Wiemann, 1977) is a uni-dimensional measure of general communication competence. The 36-item, uni-dimensional measure is presented in a 5-point Likert-type format ranging from 1: *strongly disagree* to 5: *strongly agree*. The directions of this measure were altered to instruct the person to reflect on “physicians in general.” Cronbach alpha estimate for this study was .96 ($M = 84.33$, $SD = 19.78$).

Results

Table 1 shows the results of the hierarchical multiple regression analyses. In the regression model, locus of control dimensions (i.e., internal control, chance control, and powerful other control) were entered as the first block of variables followed by information exchange dimensions (i.e., information giving, information verifying, information seeking, and socio-emotional support) which were entered as the second block of variables. Given the number of variables involved in the analyses, hypotheses were tested using 0.01 as a corrected alpha.

Hypotheses One predicted that belief in internal or powerful other health control would significantly predict a patient’s perception of increased physician communication competence. The hypotheses also predicted that belief in chance control will significantly predict a decrease in physician communication competence. The second hypothesis

suggested that increased levels of information exchange would be a predictor of increased physician communication competence. Results of the multiple regression analyses

Table 1: Zero-Order Correlations among Health Locus of Control, Information Exchange, and Doctor Communication Competence

Variable	1	2	3	4	5	6	7	8
1. Intloc	--	.26**	.27**	.20*	.28**	.19**	.31**	.26**
2. Chanloc		--	.45**	.08	.02	.10	.02	.19**
3. Powloc			--	.23**	.06	.15*	.13	.32**
4. Infoseek				--	.57**	.75**	.66**	.48**
5. Infogiv					--	.68**	.68**	.31**
6. Infover						--	.66**	.42**
7. Rel							--	.44**
8. Comp								--

Note: Intloc = Internal health locus of control; Chanloc = Chance health locus of control; Powloc = Powerful other health locus of control; Infoseek = Information seeking; Infogiv = Information giving; Infover = Information verification; Rel = Relationship quality; Comp = Perceived doctor communication competence. * = $p < .05$, ** = $p < .01$.

indicated that patient health locus of control was a statistically significant predictor of physician communication competence ($F[3, 195] = 19.46, R^2 = .23, p < .001$) with internal control ($\beta = .24, t [199] = 3.60, p < .01$) and powerful other control ($\beta = .31, t [199] = 4.31, p < .01$) contributing significantly to the equation. Chance control ($\beta = .06, t [199] = .89, p = .38$) did not contribute to the equation. When the second block of variables (information exchange variables) were entered into the equation, the resultant model significantly improved the predictability of physician competence ($F[7, 191] = 82.86, R^2 = .75, p < .001; \Delta R^2 = .52$) with powerful other control ($\beta = .13, t [199] = 3.10, p < .01$) and the socio-emotional dimension of information exchange ($\beta = .71, t [199] = 16.51, p < .001$) significantly contributing to the equation accounting for 75 percent of the variance. Internal control ($\beta = .03, t [199] = .68, p = .50$), chance control ($\beta = .04, t [199] = .95, p = .35$), information giving ($\beta = .03, t [199] = .52, p = .61$), information verification ($\beta = .03, t [199] = .38, p = .71$), and information seeking ($\beta = .10, t [199] = 1.64, p = .10$) did not significantly contribute to the equation. Therefore, the hypotheses received partial support.

Discussion

Overall, the findings of the study reveal interesting links among perceptions of control and relationship quality and physician communication competence. The belief in

powerful other and internal control accounted for 23% of the variance in the prediction of physician communication competence. Past research has linked the belief in internal control to general relational satisfaction as well as other health benefits (see Brenders, 1987, 1989). Powerful other control, especially when faced with the uncertainty of health-related issues, has a similar effect on perceived physician competence as that of internal control. Perhaps that in the context of the patient physician relationship or, more specifically, a corrective surgery situation, powerful other control may take the form of secondary control (Rothbaum, Weisz, & Snyder, 1982). That is, fitting in with the wishes or advocations of another (i.e., physician) affords the patient a degree of control in an otherwise uncontrollable situation. The influence of variables unique to the medical situation/context has been shown to confound health communication research (Avtgis et al., 2006; Tickle-Degnen, 1998).

In a sense, the patient yielding control to the physician assumes that the powerful other (i.e., the physician) has a degree of medical expertise/competence. Patients' perceptions of relational/communicative aspects of the relationship have been shown to have direct effects on perceptions of physician medical skill, expertise, and actual malpractice litigation (Cole, 1997; Fielding, 1997; Levinson et al., 1997). Therefore, the belief in powerful other control in this case, results in increased perceptions of communication competence.

Perhaps the most enlightening finding is that of patient perceived socio-emotional support and powerful other control accounting for 75% of the variance of physician communicative competence. This finding indicates that relational aspects unique to the patient and physician can actually overwhelm the more global personality predisposition of the actors. That is, regardless of a patient's belief in control over general health issues, yielding control to the physician coupled with an increased perception of support from the physician stifle the effect of more general health control expectancies in the prediction of physician communication competence. This notion of situation or context specific factors accounting for more variance than global perceptions is well documented in the social sciences (Avtgis et al., 2006, Brenders, 1989, Lefcourt, 1981; Tickle-Degnen, 1998).

Taken as a whole, patient perceived relational quality with physicians' are stronger predictors of physician competence than any other aspect of information exchange or (with exception to powerful other control making a statistically significant but unremarkable contribution) health control expectancies. Future research should focus on specific contextual/situational influences that exist within the more global context of patient/physician interaction.

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