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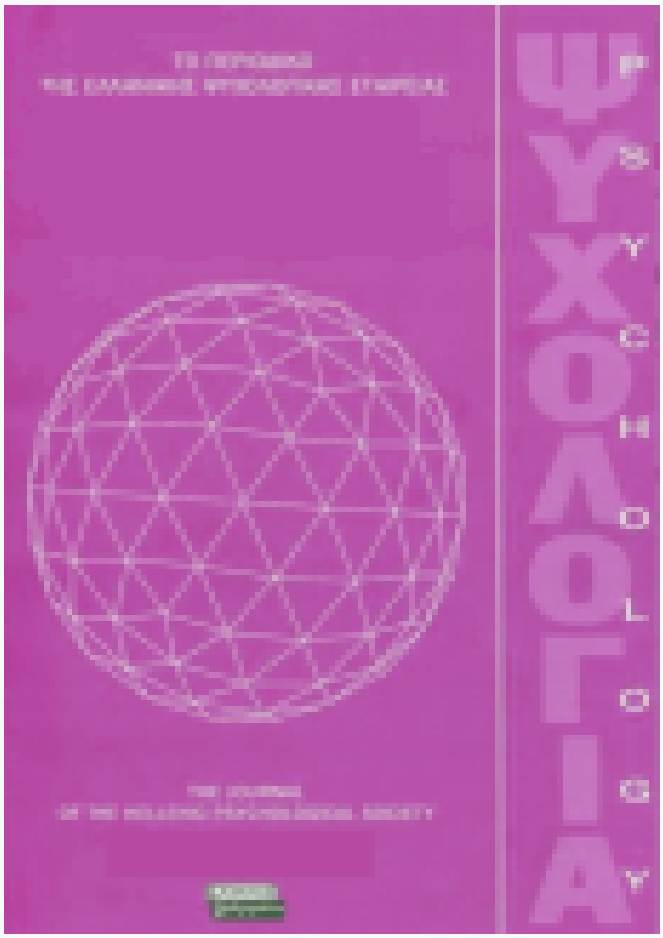

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Gregoris Iconomou, Derek R. Rutter

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Communication and satisfaction with the consultation in a general practice: A prospective examination

GREGORIS ICONOMOU
University of Patras Medical School, Patras, Greece
DEREK R. RUTTER
Centre for Research in Health Behaviour, Canterbury, Kent, UK

ABSTRACT Communication between doctor and patient constitutes a major part of medical care, and its effectiveness has been associated with beneficial patient outcomes. The present investigation is concerned with patient satisfaction with the medical consultation, and our main objective was to examine the extent to which doctors' communicative behaviours and patients' characteristics predict satisfaction with the clinical encounter in a university general practice. As patients (200 of them) went in for the consultation we measured their expectations about what would be said or would happen, their basic medical knowledge, and their attitudes towards doctors and medicine. As they came out we measured their ratings of the doctors' performance – communication of cognition and affect – and their satisfaction with certain aspects of the consultation. Two main findings emerged. First, what the doctors said or did, the affect they showed and, above all, the amount and quality of medical information they conveyed, proved to be the leading predictors of satisfaction. Second, patients' expectations alone were only weak predictors, but when they were examined in conjunction with what actually happened – that is, the extent to which expectations were met by doctors' performance – they also played a significant part in satisfaction.

Key words: Doctor-patient communication, Medical consultation, Satisfaction.

Introduction

Previous research suggests that the way in which doctors communicate with their patients has significant effects upon outcomes, one of those being satisfaction with health care (for example, Korsch & Harding, 1997; Ley, 1988; Ong, De Haes, Hoos, & Lammes, 1995; Rutter, Iconomou, & Quine, 1996). In the past thirty years, patients' satisfaction has been examined extensively. Its evaluation is important not only for assessing the quality of health care (Steptoe, Sutcliffe, Allen, & Coombes, 1991), but also because research has shown that dissatisfied patients are less likely to comply with medical regimens and advice (Burgoon, Birk, & Hall, 1991; Korsch & Harding, 1997; Ley, 1988; Linder-Pelz, 1982; Myers & Midence, 1998), or to seek medical treatment and use medical services in the future (Taylor, 1995; Ware, Snyder, Wright, & Davies, 1983). They are also more likely to change their health care provider (Weiss & Senf, 1990) or seek scientifically unacceptable medical advice (Taylor, 1995). Furthermore, there is

Address: Gregoris Iconomou, Aratou Sr. 17-19, 262 21 Patras, Greece. Tel.: *30-61-991459, Fax: *30-61-428514

evidence to link satisfaction to improvements in patients' health status and other clinical outcomes (Fitzpatrick, 1991; Pascoe, 1983; Woolley, Kane, Hughes, & Wright, 1978).

In accordance with the implications of the literature (for example, Rutter et al., 1996; Taylor, 1995), the present investigation was concerned with the role of communication in predicting satisfaction with one's own doctor as opposed to satisfaction with health care in general. The design was prospective, and our objective was to test more systematically whether patients' characteristics –what the individual brings to the clinical encounter– and/or their perceptions of the doctor's performance immediately after the consultation predicted satisfaction. As patients went in we measured their expectations about what would be said or would happen, their basic medical knowledge, and their attitudes towards doctors and medicine. As they came out we measured their ratings of the doctor's performance and their satisfaction with certain aspects of the consultation. We also recorded patients' demographic characteristics. We anticipated greater satisfaction would be predicted by more positive attitudes to doctors and medicine, greater basic medical knowledge, and more positive evaluations of doctor's performance alone and also in conjunction with patients' expectations (i.e., the degree to which expectations were met by the doctor). With respect to doctor's perceived performance, we tested whether cognitive factors (amount and quality of information) and/or socioemotional factors (affective tone and interpersonal skills) operated together on satisfaction. As previous research has shown, both cognition (Ley, 1988) and affect (Korsch, Gozzi, & Francis,1968; Korsch & Harding, 1997) are known to be important in medical communications, but as to their relative importance the evidence is still equivocal. The question we therefore asked was which of the two contributed more to satisfaction.

Method

Participants and procedure

The study was undertaken in the Medical Centre at a university in South-East England. The Centre is a general practice serving approximately 8,500 patients and the medical staff consisted of four white-British GPs, two of them men and two of them women. The physicians knew in advance that one of the objectives of the study was to assess the quality of the service, and they all agreed to take part.

Two hundred and fourteen patients were approached in the reception room while they were waiting to see the doctor. They were asked to complete a questionnaire concerning people's views about health and medicine, in the hope that the health services provided would be improved. The first part of the questionnaire was completed immediately before their meeting with the doctor (Time 1), and the second part was completed by the same patients immediately after they saw the doctor (Time 2). Two hundred patients agreed to participate in the study: 100 were men and 100 were women, 145 were English speaking and 55 were non-English speaking, 108 were under 24 years old and 92 were over 25, and 112 were students and 88 were non-students (of those, 34 were members of staff and 54 other). For those who refused, the most common reason for not participating was that they lacked time. The questionnaire was answered anonymously and confidentially, and the individual doctor concerned was not identified to the researcher. The first part of the questionnaire took on average ten minutes to complete, the second fifteen.

Measures

Pre-visit questionnaire (Time 1). The Attitudes Towards Doctors and Medicine Scale (Marteau, 1990) consists of nineteen items measured on a 5-point scale from 1 (Strongly

disagree) to 5 (Strongly agree). Principal components analysis revealed no interpretable factors, but the nineteen items combined produced a Cronbach's *alpha* of 0.73. A unitary scale of all items, "Attitudes to Doctors and Medicine", was therefore created.

Patients' expectations about the consultation were measured by the Medical Interview Expectations Scale. The twenty-five items of the scale were taken from the Medical Interview Satisfaction Scale (MISS; Wolf, Putnam, James, & Stiles, 1978) and were rephrased in a way that taped both positive and negative expectations about what the doctor will say and do. Each item was rated on a 5-point scale from 1 (Strongly disagree) to 5 (Strongly agree). Patients were also offered the "not-applicable" option in case a statement was irrelevant to their expectations. Scores of 1 and 2 were taken as negative, 4 and 5 as positive. A total score for each type of response was calculated by summing.

Patients' general medical knowledge was measured by the Medical Knowledge Questionnaire, which we devised ourselves after the work of Boyle (1970), Samora, Saunders, and Larson (1961), and Segall and Roberts (1980). There were two parts. The first consisted of twelve pretested five-option multiple choice items of definition: "sedative", "malignant", "prognosis", "cerebral", "lesion", "mastectomy", "heartburn", "the least starchy of the following foods", "jaundice", "palpitation", "bronchitis" and "piles". The second part assessed knowledge of the location of eight major organs: kidneys, stomach, lungs, liver, thyroid gland, intestines, heart, and bladder. Patients were presented with four line-drawings of the body for each organ, and were asked to select the figure with shading in the appropriate position. Scores for the 20 items were coded 0 for an incorrect answer and 1 for a correct answer. The total score was calculated by summing the number of correct responses.

Post-visit questionnaire (Time 2). Doctors' perceived performance was measured by the Medical Interview Satisfaction Scale (Wolf et al., 1978), which is designed to tap three dimensions of the doctor's perceived performance: *cognitive* (amount and quality of information giving), *affective* (amount and quality of positive emotions), and *behavioural* (the doctor's technical competence). As at Time 1, patients were also offered the "not-applicable" option in case a statement was irrelevant to the meeting they had just had. In order to test for the independent effects of doctors' perceived performance on satisfaction, two types of measures were constructed. First, there was the number of positive, negative and uncertain responses. That is, the number of items for which patients scored 4 and 5 were taken as positive, 1 and 2 as negative, and 3 as uncertain. The "not-applicable" cases were dropped from the analysis. Second, there was the doctor's cognitive, affective and behavioural performance, based on actual item-scores (from 1 to 5). For four cognitive items, two affective items and one behavioural item, many patients responded "not-applicable", and the items were therefore dropped, leaving five cognitive, seven affective, and seven behavioural. Reliability checks showed that all three scales had satisfactory reliability: α = 0.87, 0.85, and 0.80.

In order to test for the *combined* effects of patients' expectations and doctors' perceived performance on satisfaction, four concordance measures were constructed. The four Time 1/2 measures took into account the doctor's perceived performance in relation to each corresponding expectation: positive expectations met, which consisted of the number of items for which patients scored 4 or 5 on both the Medical Interview Expectations Scale and the corresponding Medical Interview Satisfaction items; positive expectations unmet, which consisted of the number of items for which patients scored 4 or 5 on the Expectations Scale *but* 1, 2 or 3 on the corresponding Medical Satisfaction item; negative expectations met, which consisted of the number of items for which patients scored 1 or 2

on both scales; and negative expectations unmet, which consisted of the number of items for which patients scored 1 or 2 on the Expectations Scale *but* 3, 4 or 5 on the corresponding Medical Interview Satisfaction item.

Finally, there was the Satisfaction with Consultation Scale, which we devised ourselves. It consists of six 5-point items ranging from 1 (very dissatisfied) to 5 (very satisfied), covering satisfaction with the information given by the doctor, the warmth and supports s/he showed, his/her examination skills and behaviour, the treatment or advice s/he suggested, the time he spent with the patient, and the time the patient spent in the waiting room. Reliability checks showed that the last item correlated poorly with the other five, and it was therefore dropped. The remaining five items were combined into a single scale, and Cronbach's *alpha* was 0.89. There was also a separate item for assessing satisfaction overall.

Results

Satisfaction

The first thing we examined was satisfaction measured on the five-item scale. Overall, 159 patients (79.5%) scored between 20 and 25 and so were either satisfied or highly satisfied. Analysis of the items one by one showed that the only aspect which raised dissatisfaction was the time patients spent in the waiting room: fifty-seven patients (28.5%) were dissatisfied or highly dissatisfied.

Predicting satisfaction: univariate analyses. The next part of our analysis tested for relationships between patients' demographic characteristics and satisfaction. One-way analysis of variance revealed no significant effects for sex. However, there were reliable effects for age and status. First, as to age, younger patients were less satisfied with the consultation than were older patients, $F(1, 194) = 7.0, p < 0.01$. Second, as to status, students were more dissatisfied with the consultation than non-students $F(1, 194) = 11.0, p < 0.001$. The difference in status, however, may well be an artefact of age, since students were significantly younger than non-students $x^2(2, N = 200) = 53.4, p < 0.001$.

The next stage of our analysis used Pearson's correlations, and tested for all possible relationships between satisfaction and, respectively, Time 1 measures, Time 2 measures, and Time 1/2 measures. Of the Time 1 variables, only negative expectations were related reliably to satisfaction –and the relationships were inverse ($r = -0.22, p < 0.05$). That is, the negative expectations patients brought to the consultation played a major part in dissatisfaction. There were no associations with attitudes, positive expectations or medical knowledge. At Time 2, however, a clear constellation of associations emerged. Both measures assessing doctor's perceived performance –that is, the number of positive, negative and uncertain responses, and the three ratings of performance based on actual item scores– were significantly correlated with satisfaction: number of positive responses ($r = 0.45, p < 0.001$), number of negative responses ($r = -0.57, p < 0.001$), and number of uncertain responses ($r = -0.53, p < 0.001$); cognitive performance ($r = 0.78, p < 0.001$), affective performance ($r = 0.81, p < 0.001$), and behavioural performance ($r = 0.73, p < 0.001$). Similarly, all four Time 1/2 measures were strongly associated with satisfaction: positive expectations met ($r = 0.39, p < 0.001$), positive expectations not met ($r = -0.53, p < 0.001$), negative expectations met ($r = -0.28, p < 0.001$), and negative expectations not met ($r = -0.17, p < 0.05$).

Predicting satisfaction: Multivariate analyses. From univariate analyses we moved finally to multivariate analyses. As shown previously, of the Time 1 measures only negative expectations were correlated reliably with satisfaction. The pattern was confirmed when all Time 1 measures were entered into a multiple regression analysis: negative expectations were the sole predictor of

satisfaction (inversely), and the remaining variables failed to reach significance (Table 1).

We next examined the effects of Time 2 measures. As can be seen in Table 2, the first set –number of positive, negative, and uncertain responses– all predicted satisfaction, and negative responses and uncertain responses were the most reliable. To gain more insight into the nature of doctors' perceived performance we turned to the scales of perceived performance, namely cognitive, affective and behavioural. Recall that these measure *actual item-scores* in contrast with *number of items* (the forms of our previous measures). The three scales were entered into a multiple regression analysis, and the results are given in Table 3: the main predictors of satisfaction were cognitive and affective performance. There was no effect of behavioural performance.

After examining the separate effects of Time 1 and Time 2 measures, we next performed a hierarchical regression analysis, in order to assess the total percentage of variance explained and the unique contribution of each block of measures to satisfaction. Block 1 consisted of the four Time 1 variables, and Block 2 the three Time 2 variables (positive, negative and uncertain responses). Block 1 was entered first, followed by Block 2 (Table 4). On its own, Block 1 accounted for 7 per cent of the variance in satisfaction. The addition of Block 2 led to an increment of 41 per cent, raising the total amount of variance explained to 48 per cent. As can be seen in Table 4, *all* Time 2 or Block 2 measures predicted satisfaction significantly. Negative expectations failed to reach significance in the hierarchical regression, although in the previous analysis they had played some part in predicting satisfaction (Table 1), albeit only at the 5 per cent level of significance.

Having tested for the independent and cumulative effects of Time 1 and Time 2 measures, the final part of our analysis examined the *combined* effects of Time 1/2 measures –that is, the four composite measures of patients' expectations and doctors' perceived performance taken together. The four composite measures were entered into a multiple regression analysis, the results of which are shown in Table 5: negative expectations not met by the doctor, and once again, medical knowledge, were both unrelated to satisfaction. By contrast, the number of positive and negative expectations the doctor met, the number of positive expectations he or she failed to meet, and attitudes, were all found to predict satisfaction significantly. The variance explained was 39 per cent.

The data thus indicate that what the doctors said or did, the humaneness they showed and, above all, *the amount and quality of medical information* they conveyed, proved to be the crucial components that led to patients' satisfaction. Expectations alone were only weak predictors, but when they were examined in conjunction with

Table 1
Satisfaction with the consultation predicted from Time 1 measures: Multiple regression

	Beta	*t*
Attitudes	0.10	1.6
Positive expectations	0.06	0.9
Negative expectations	−0.19	−2.5 *
Medical knowledge	0.11	1.6

Adjusted $R^2 = 0.05$; $F(4, 191) = 3.8$, $p < 0.01$, $^*p < 0.05$

Table 2
Satisfaction with the consultation predicted from Time 2 measures: Multiple regression

	Beta	*t*
Number of positive responses	0.18	3.1**
Number of negative responses	−0.38	−6.5***
Number of uncertain responses	−0.33	−5.6***

Adjusted $R^2 = 0.46$; $F(3, 192) = 57.8$, $p < 0.001$, $^{**}p < 0.01$; $^{***}p < 0.001$

Table 3
Satisfaction with the consultation predicted from Time 2 doctor's performance scales: Multiple regression

	Beta	*t*
Cognitive performance	0.55	4.7***
Affective performance	0.38	2.7*
Behavioural performance	0.03	0.2

Adjusted $R^2 = 0.75$; $F(3, 36) = 40.9$, $p < 0.001$, $^{*}p < 0.05$; $^{***}p < 0.001$

Table 4
Satisfaction with the consultation predicted from Time 1 and Time 2 measures: Hierarchical regression

Block	Predictors	*Beta*	*t*	*R* Square Change
1	Attitudes	0.09	1.7	0.07
	Positive expectations	0.02	0.3	
	Negative expectations	−0.01	−0.2	
	Medical knowledge	0.03	0.5	
2				
	No. of positive responses	0.16	2.3 *	0.41
	No. of negative responses	−0.38	−5.6 ***	
	No. of uncertain responses	−0.33	−5.6 ***	

$R^2 = 0.48$; Adjusted $R^2 = 0.46$; $F(7, 188) = 25.1$, $p < 0.001$, $^{*}p < 0.05$; $^{***}p < 0.001$

Table 5
Satisfaction with the consultation predicted from composite Time 1/2 measures: Multiple regression

	Beta	*t*
Attitudes	0.12	2.1 *
Positive expectations met	0.25	4.2 ***
Positive expectations unmet	−0.46	−7.9 ***
Negative expectations met	−0.17	−2.3 *
Negative expectations unmet	−0.00	−0.0
Medical knowledge	0.04	0.7

Adjusted $R^2 = 0.39$; $F(6, 189) = 22.1$, $p < 0.001$, $^*p < 0.05$; $^{***}p < 0.001$

what actually happened in the consultation, they did play a significant part.

Discussion

The purpose of the study was to examine the determinants of patients' satisfaction with their consultation in a general practice. The research question to be tested empirically was what is the extent to which patients' and/or doctor's characteristics predict satisfaction with the clinical encounter. As patients went in for the consultation we measured their expectations about what would be said or would happen, their basic medical knowledge, and their attitudes towards doctors and medicine. As they came out we measured their ratings of the doctors' performance and their satisfaction with certain aspects of the consultation. Patients' demographic characteristics, mainly sex and age were also assessed. Patients were very satisfied with their visit to the Medical Centre. This is consistent with the literature, in the sense that the vast majority of patients express great satisfaction with their doctor, even when multidimensional scales are used (Fitzpatrick, 1991; Pascoe, 1983).

In the first part of our analysis, we examined demography, and we found that it was once again only a minor predictor of satisfaction. Older patients or non-students were more satisfied overall than were younger patients or students. Of all patient demographic characteristics, only age has been found to be positively correlated with satisfaction in a consistent way across studies (see the meta-analysis by Hall & Dornan, 1990). This is probably attributable to the ageing process, in the sense that people get more passive and less critical as they grow older.

As to our analyses of satisfaction, first, we examined the independent effects of patients' and doctors' characteristics (Time 1 and Time 2). Time 1 measures, when taken alone, explained a small proportion of the variance. Specifically, only negative expectations were associated with satisfaction, while attitudes and medical knowledge were not. By contrast, *all* Time 2 measures were strong predictors. Such were the effects of the positive, negative and uncertain responses that when all Time 1 and Time 2 measures were entered into a hierarchical regression, any effects of expectations vanished and what the doctors said or did accounted for over 40 per cent out of a total of 46 per cent of the variance explained.

We also broke down doctor's performance into its basic components in order to examine which of the three (cognitive, affective and behavioural) best predicted satisfaction. The analysis

revealed that perceived cognitive performance predominated, followed by affective, while behavioural performance (examination skills or technical competence) was unrelated to satisfaction. The pattern provides strong support for Ley's cognitive model (Ley, 1988: the importance of adequate and well-structured medical information) and further support for Korsch's affective model (Korsch et al., 1968; Korsch, 1989: the importance of emotional and interpersonal factors) in predicting satisfaction. Because the doctor-patient relationship is often fraught with major communication deficiencies (Korsch & Harding, 1997; Roter & Hall, 1992), the implication is that doctors should learn how to communicate better with their patients. With respect to behavioural performance, previous research has observed that patients rarely question their physicians' technical or medical expertise, either because they feel that they cannot judge it very well or because it is threatening to contemplate that the care one chose is not of the highest quality (Hall & Dornan, 1988).

The final thing to emerge from our analyses is that any assumption that doctor's perceived performance can be seen as the sole predictor of satisfaction is oversimplified, because the composite measures of expectations and performance (Time 1/2) explained about the same proportion of the variance as Time 2 measures alone. Positive and negative expectations met, and positive expectations not met, were all strongly related to satisfaction in both analyses. This implies that patients' satisfaction is in part a product of the degree to which patients' requests are fulfilled: that is, what the patient expects to happen, and the extent to which this is met or not by what the doctor does, contributes greatly to satisfaction. Patients' expectations and doctor's performance are two sides of the same coin, in the sense that they depend upon each other and are closely linked. Indeed, as previous research has pointed out, doctors have to detect the individual patient's realistic expectations, and then they have to try to tailor their performance to these expectations if the outcome of the clinical encounter is to be positive (for example, Hsieh & Kagle, 1991; Like & Zyzanski, 1987).

Those were the main findings of our study, but in interpreting them there are certain contextual limitations. First, the study was undertaken in a university general practice, meaning that the majority of our sample were students and academics (73 per cent). The extent to which the results can be generalised, and how similar the processes may be in other groups, cannot be determined. The second limitation leads on from the first and concerns the range of illnesses being treated. Since we were not able to control the reasons people came to the surgery, a wide range of problems is represented. The heterogeneity of the consultations is a common feature of the current doctor-patient communication literature, something that has not escaped criticism (for example, Bensing, 1991; Inui & Carter, 1985). Patients with different diagnoses differ in their clinical and psychosocial states, and so may have different communication needs. It is therefore important to contextualise doctor-patient communication research socially and medically, in order to compare health settings and diseases properly, and to enable oneself to draw solid conclusions with respect to satisfaction and other health outcomes.

To summarise, the study examined the associations between doctor-patient communication and one outcome of care - satisfaction with the consultation in a general practice. Doctor's perceived performance, mostly his or her cognitive and affective performance, and the extent to which patients' expectations were met by what the doctor said or did, were the leading predictors of satisfaction.

References

Bensing, J. (1991). Doctor-patient communication and the quality of care. *Social Science and Medicine, 32,* 1301-1310.

Boyle, C. M. (1970). Differences between pa-

tients' and doctors' interpretations of common medical terms. *British Medical Journal, 2,* 286-289.

Burgoon, M., Birk, T. S., & Hall, J. R. (1991). Compliance and satisfaction with physician-patient communication: An expectancy theory interpretation of gender differences. *Human Communication Research, 18,* 177-208.

Fitzpatrick, R. M. (1991). Surveys of patient satisfaction: Important general considerations. *British Medical Journal, 302,* 887-889.

Hall, J. A., & Dornan, M. C. (1988). What patients like about their medical care and how often they are asked: A meta-analysis of the satisfaction literature. *Social Science and Medicine, 27,* 935-939.

Hall, J. A., & Dornan, M. C. (1990). Patient sociodemographic characteristics as predictors of satisfaction with medical care: A meta-analysis. *Social Science and Medicine, 30,* 811-818.

Hsieh, M., & Kagle, J. D. (1991). Understanding patient satisfaction and dissatisfaction with health care. *Health and Social Work, 16,* 281-290.

Inui, T. S., & Carter, W. B. (1985). Problems and prospects for health services research on provider-patient communication. *Medical Care, 23,* 521-538.

Korsch, B. M. (1989). The past and future of research in doctor-patient relations. In M. Stewart & D. Roter (Eds.), *Communicating with medical patients* (pp. 246-251). London: Sage.

Korsch, B. M., Gozzi, E., & Francis, V. (1968). Gaps in doctor-patient communication: Doctor-patient interaction and patient satisfaction. *Pediatrics, 42,* 855-871.

Korsch, B. M., & Harding, C. (1997). *The intelligent patient's guide to the doctor-patient relationship.* New York: Oxford University Press.

Ley, P. (1988). *Communicating with patients.* London: Chapman & Hall.

Like, R., & Zyzanski, S. J. (1987). Patient satisfaction with the clinical encounter: Social psychological determinants. *Social Science and Medicine, 24,* 351-357.

Linder-Pelz, S. (1982). Toward a theory of patient satisfaction. *Social Science and Medicine, 16,* 577-582.

Marteau, T. M. (1990). Attitudes to doctors and medicine: The preliminary development of a new scale. *Psychology and Health, 4,* 351-356.

Myers, L. B., & Midence, K. (1998). *Adherence to treatment in medical conditions.* Amsterdam: Harwood.

Ong, L. M., De Haes, J. C., Hoos, A. M., & Lammes, F. B. (1995). Doctor-patient communication: A review of the literature. *Social Science and Medicine, 40,* 903-918.

Pascoe, G. C. (1983). Patient satisfaction in primary health care. *Evaluation and Program Planning, 6,* 185-210.

Roter, D. L., & Hall, J. A. (1992). *Doctors talking with patients/patients talking with doctors: Improving communication in medical visits.* Westport, CT: Auburn House.

Rutter, D. R., Iconomou, G., & Quine, L. (1996). Doctor-patient communication and outcome in cancer patients: An intervention. *Psychology and Health, 12,* 57-71.

Samora, J., Saunders, L., & Larson, R. F. (1961). Medical vocabulary knowledge among hospital patients. *Journal of Health and Human Behavior, 2,* 83-92.

Segall, A., & Roberts, L. W. (1980). A comparative analysis of physician estimates and levels of medical knowledge among patients. *Sociology of Health and Illness, 2,* 317-334.

Steptoe, A., Sutcliffe, I., Allen, B., & Coombes, C. (1991). Satisfaction with communication, medical knowledge, and coping style in patients with metastatic cancer. *Social Science and Medicine, 32,* 627-632.

Taylor, S. E. (1995). *Health psychology* (3rd ed.). New York: McGraw-Hill.

Ware, J. E., Snyder, M. K., Wright, W. R., & Davies, A. R. (1983). Defining and measuring patient satisfaction with medical care. *Evaluation and Program Planning, 6,* 247-263.

Weiss, B., & Senf, J. (1990). Patient satisfaction survey instrument for use in health maintenance organisations. *Medical Care*, *28*, 434-445.

Wolf, M. H., Putnam, S. M., James, S. A., & Stiles, W. B. (1978). The Medical Interview Satisfaction Scale: Development of a scale to measure patient perceptions of physician behavior. *Journal of Behavioral Medicine*, *1*, 391-401.

Woolley, F. R., Kane, R. L., Hughes, C. C., & Wright, D. D. (1978). The effects of doctor-patient communication on satisfaction and outcome of care. *Social Science and Medicine*, *12*, 123-128.