Facilitation of Patient Involvement in Care: Development and Validation of a Scale

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Facilitation of Patient Involvement in Care: Development and Validation of a Scale

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The authors describe the development and validation of the Facilitation of Patient Involvement Scale, a 9-item measure of the degree to which patients perceive that their physicians actively facilitate or encourage them to be involved in their own healthcare. They first assessed the unidimensionality of the measure, conducting factor analysis in a pilot study of 236 individuals. Subsequently, they assessed the scale's reliability and validity with additional samples of 333, 338, 44, and 84 participants. Reliability of the scale was very high, with average Cronbach's α levels of .91. To test the validity of the scale, they used correlational and multiple regression analyses. The findings indicated that patients' satisfaction with their medical encounters was associated with patients' perceptions of facilitation; that perceptions of facilitation were also moderately correlated with general adherence patterns and preferred communication styles; and that patient age, gender, and education level were not relevant to perceptions that healthcare professionals promote patients' involvement in their own care.

Index Terms: *active patienthood, patient involvement, physician-facilitated involvement, physician-patient collaboration*

Poor physician-patient communication has been shown to have deleterious effects on such important outcome measures as patient satisfaction and adherence to treatment recommendations.[1–6] Poor communication with one's physician is the single most important predictor of patient dissatisfaction with the medical encounter.[7] Although patients tend to place great value on receiving health information, such information is often not provided effectively in physician-patient encounters.[8–11] Effective collaboration leads to more positive patient outcomes. Participation in the decision-making process increases patients' active involvement in and responsibility for their own care,[12] and patients who are involved experience less distress about their illness,[2,13] report higher levels of satisfaction with their medical experience,[2,7,11] show greater improvement in their overall health,[2,14] and exhibit higher levels of commitment and adherence to the treatments that they and their physicians jointly decide on.[5,15]

Facilitating or promoting a patient's involvement in care entails communicating openly with the patient, giving information, and allowing the patient to express his or her views and opinions. Certain physician behaviors, such as suggesting that the patient should ask questions, listening carefully to what the patient says, and readily providing information about various treatment options, facilitate a high level of patient involvement.

In this article, we describe the development of the Facilitation of Patient Involvement Scale (FPI) to measure the

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degree to which individuals *perceive* that their physicians encourage their involvement in their own healthcare. The behaviors we assessed include the physician's sharing information, listening carefully, providing opportunities to ask questions or share ideas, and indicating to the patient that he or she is an equal partner in the medical care process. Such perceptions are expected to influence outcomes such as patient satisfaction and adherence to the physician's treatment advice. The goals of this project were (a) to develop a patient self-report scale to assess perceptions of physicians' facilitative behaviors, and (b) to establish the reliability and validity of this scale.

METHOD

Instrument Development

After reviewing the literature on patient involvement, we developed a preliminary 18-item pool of statements regarding various aspects of physician behavior. Seventeen research psychologists subsequently reviewed the items and provided feedback about the face validity, content overlap, and ambiguity of the 18 items. On the basis of their feedback, we removed 9 items that were excessively redundant or lacked face validity and modified 7 of the remaining 9 items for clarity and specificity. We formed the FPI Scale from the remaining 9 items. To avoid acquiescence-response bias,[16] we phrased 4 items in the positive direction and 5 in the negative direction. The response format is a 6-point Likert-type scale with response options ranging from *none of the time* to *all of the time* (see Appendix A). Respondents are asked to circle the response that best indicates how much of the time each statement is true of their relationship with their personal physician.

Reliability Criteria and Validity Hypotheses

We used Cronbach's coefficient alpha to establish internal consistency reliability[17] and selected the stringent cutoff of .85, which Rosenthal and Rosnow[18] suggested as an indicator of a dependable test. In addition, we used Pearson's r to assess test-retest reliability of the measure and set the cutoff point at .80, a criterion that is based on the combined test-retest results for the Minnesota Multiphasic Personality Inventory, Wechsler Adult Intelligence Scale, and Rorschach Inkblot Test.[19]

Before a new test can be considered valid, three types of validity must be established: content, construct, and criterion. Content validity (item representation of meaningful content) was demonstrated for this scale during the instrument-development stage, when 17 research psychologists evaluated and critiqued the item pool from which the scale was derived. Later, 4 general medical practitioners (one retired) evaluated the 9-item scale.

Construct validity indicates that the instrument actually measures the psychological construct it claims to measure.[20] The ideal way to demonstrate this is to provide evidence of both convergent and discriminant validity—that is, a measure's ability to correlate strongly with theoretically relevant measures and to show weak associations with measures of dissimilar constructs. Thus, our construct validity measures included patient age, gender, and level of education (discriminant) and physician gender, patient's preferred communication style, and information seeking (convergent). We hypothesized that patient age, gender, and level of education would be unrelated to perceived facilitation of involvement and predicted that female physicians would be perceived as more facilitative, on average, than male physicians. Although some studies have found no difference in the communication skills of male and female physicians,[21,22] most previous research has shown that female physicians are more empathic, take more time with patients, listen to them more, and better explain the implications of their illness.[22–24] These behaviors are expected to be perceived as facilitative by patients, with differences in the physician's gender to be reflected in this measure.

We tested the hypothesis that individuals will seek out medical information and will communicate actively with their physicians if the physicians behave in a manner that facilitates their involvement. Patients want medical information but often do not act in a way that will elicit the desired information from the physician until situational factors are conducive to gaining information, according to Beisecker and Beisecker.[25] In other words, patients tend not to engage in information-seeking behaviors until the interaction is sufficiently long to allow for such behaviors. Furthermore, a patient who perceives that the physician is open to patient involvement is more likely to seek information and to communicate openly with the physician.

Criterion validity describes the degree to which an instrument correlates concurrently or predictively with important outcome variables. Our criterion validity measures concurrently assessed patients' adherence to their treatment regimens, their satisfaction with medical care received, and their general health. Adherence increases when communication between the patient and physician increases.[5,15,26] We therefore hypothesized that those who perceived higher levels of facilitation would also exhibit higher levels of self-reported adherence to prescribed medical regimens. Active patient involvement has also been linked to positive patient outcomes such as satisfaction[2,7,11] and physical health.[2,14] Therefore, we hypothesized that patients who perceived that

their physicians encouraged active involvement in their care would also report greater satisfaction and overall physical health than those who did not perceive such support.

Study 1 (Pilot Study)

The goal of the pilot study was to establish the unidimensionality of the FPI construct and to assess the reliability of the FPI before the more extensive reliability and validity testing in the four subsequent studies.

Participants. Participants included 104 male and 132 female faculty and staff members ranging in age from 22 to 84 (M = 46 y) at a major West Coast university. The participants in this sample were highly educated—114 individuals had doctoral degrees, and all respondents had completed high school.

Measures. In addition to the FPI Scale, the pilot questionnaire included items assessing respondent's demographic information: age, education level, and gender.

Procedures. We distributed questionnaires, which included a brief informed-consent statement, to the campus mailboxes of the faculty and staff. Responses were anonymous, and respondents were asked not to include any identifying information on their questionnaires, which were to be returned to the researchers by intercampus mail. Upon receipt of the data, trained coders entered the information into an SAS computer file. We conducted an exploratory factor analysis to determine whether the FPI could reasonably be defined as unidimensional and used Cronbach's alpha to assess internal consistency and reliability.

Results. The factor analysis clearly indicated a single factor on the basis of both our visual examination of the scree plot and the weakest lower bound criterion of minimum eigenvalues equal to 1.0. None of the item loadings was less than .72 on the primary factor, and no item loaded higher than .20 on another factor. The proportion of total variance explained by the primary factor was 78%, and Cronbach's alpha reliability of the 9-item scale was .93. The results of this pilot study supported the unidimensionality and internal consistency of the FPI Scale.

Study 2

Our purpose in conducting this study was to confirm the reliability of the scale in a larger and more diverse sample and to examine its validity by testing our hypotheses regarding physician characteristics, perceived facilitation, satisfaction, and adherence.

Participants. We surveyed 338 (148 men and 190 women) members of the alumni association of a major West Coast university. Fifty-five percent of the population from which we took this random sample were men; 45% were women. Our respondent sample was 44% male. Respondents' ages ranged from 28 to 79 (M = 44 y). They were also well educated—45% of the respondents held a Master's degree, and education levels for the entire sample ranged from some college to doctoral degrees.

Measures. In addition to the FPI Scale, we used the following measures: (a) the Patient Communication Style Scale (PCS, unpublished manuscript, Dye NE and associates; 1992; University of California, Riverside), a short form, 7-item scale measuring a patient's preferences for communication styles that has shown an average alpha reliability of more than .80 in several samples; (b) the Information-Seeking Preferences Index (ISPI),[27] a modified, 7-item scale assessing the patient's desire for information regarding his or her medical condition (α = .82); (c) the RAND General Adherence Scale (GAS),[28] a 5-item scale measuring the patient's level of adherence to treatment recommendation during the past 6 months (α = .81); (d) the Patient Satisfaction Questionnaire (PSQ) developed for the RAND Medical Outcomes Study,[29] a 6-item version modified from the 18-item long form, measuring patient satisfaction with the medical care received (α = .84, long form); and (e) the General Health Perceptions Scale (GHP),[30] a 6-item scale that assesses a patient's perception of his or her level of current health. The questionnaire also assessed patient's age, gender of patient and physician, and patient's education level.

Procedure. We obtained a random sample of mailing labels for 1,000 alumni from a pool of all alumni who had left the university before 1988. (We used the criterion date of 1988 to ensure that most of the individuals had completed most of their schooling, were working, and would be responsible for obtaining their own medical care.) We mailed the anonymous questionnaire, an informed-consent letter that briefly explained the study, and a postage-paid return envelope to each individual. The response rate was approximately 34%, yielding our sample of 338 persons.

Trained coders entered the data from the questionnaires into an SAS computer file and standardized all scale scores. We used the following formula to transform each scale score to a metric of 0–100: × 100 (scale score minus minimum possible score/maximum possible score minus minimum possible score).[31] We carried out this transformation only to make the means of the various scales more easily comparable with one another; we used standardized scale

scores in all analyses. We computed internal consistency (Cronbach's α) for each scale, and employed zero-order correlations to assess the hypothesized relationships and to explore any additional covariation among measures. To examine the determinants of patients' perceptions of facilitation and the effects of these perceptions, we used simultaneous multiple regression.

Results. The FPI Scale again showed a very high reliability (Cronbach's α = .90). The means, standard deviations, and alpha reliabilities of the scales are shown in Table 1. In terms of absolute values possible, the respondents reported moderate-to-high levels of satisfaction, adherence, active communication style, desire for involvement, and facilitation by their physicians, as well as very good health.

In support of hypothesized discriminant validity of the FPI, we found that patient age, gender, and level of education were all unrelated (all *ps* > .25) to scores on the scale. Contrary to our hypothesis regarding convergent validity, the FPI showed no correlation with physician's gender or with information-seeking preferences. In support of convergent validity, however, FPI was positively associated with active communication style. All hypotheses regarding criterion validity were supported: the FPI was significantly correlated with the patient's level of adherence, general health, and satisfaction with the medical encounter (see Table 2). In addition, active communication style was positively correlated with patient satisfaction ($r = .17$, $p < .001$).

To examine these relationships further, we used simultaneous multiple regression because it is a stringent test, indicating unique variance accounted for by each predictor variable. Regression analyses indicated that patient's level of education, physician's gender, patient's age, and patient's gender were not significant predictors of perceived facilitation (βs = –.02, –.03, –.03, and .03, respectively, all *ps* > .60). A preference for active communication on the part of the patient, however, predicted perceived level of facilitation (β = .33, $p < .001$). In regression analyses predicting patient satisfaction, perceived facilitation was predictive of medical satisfaction (β = .79, $p < .001$), but general health, preferences for active communication, and information seeking were not predictive. FPI accounted for approxi-

TABLE 1
Means, Standard Deviations, and Alpha Reliabilities for the Facilitation of Patient Involvement Scale (FPI) and Validation Measures

Study	FPI	PSQ	PCS	ISPI	GAS	GHP
Study 2						
M	73.09	69.53	69.77	78.23	74.09	80.77
SD	20.47	18.69	17.29	9.56	15.20	18.77
α	.90	.89	.81	.68	.87	.92
Study 3						
M	69.71	66.57	61.54	79.16	71.31	77.62
SD	23.33	20.79	18.35	9.40	16.90	19.18
α	.91	.90	.81	.73	.84	.90
Study 4						
M	58.27	64.08	60.20	83.75	62.18	82.45
SD	20.12	15.24	15.84	4.99	11.43	15.12
α	.93	.88	.87	.75	.83	.92
Study 5						
M	50.82	63.74	51.05	75.75	88.17	65.26
SD	15.62	15.20	18.48	8.49	14.31	19.83
α	.89	.85	.84	.73	.85	.85

Notes. *M* = mean; *SD* = standard deviation; α = Cronbach's α reliability; PSQ = Patient Satisfaction Questionnaire; PCS = Patient Communication Style Scale; ISPI = Information-Seeking Preferences Index; GAS = General Adherence Scale; GHP = General Health Perceptions Scale.

TABLE 2
Correlations of the Facilitation of Patient Involvement Scale (FPI) and Validation Measures†

Study	FPI	TRT	PSQ	PCS	ISPI	GAS	LNGTH	GHP	PTED
Study 1 (N = 236)	.93	—	.69****	—	—	—	—	*NS*	.18**
Study 2 (N = 338)	.90	—	.75****	.28****	*NS*	.31****	.18***	.14***	*NS*
Study 3 (N = 333)	.91	—	.67****	.38****	*NS*	.32****	.17***	.19***	*NS*
Study 4 (N = 44)	.93	.89	.63***	.35*	*NS*	.32*	—	*NS*	—
Study 5 (N = 84)	.89	.85	.59***	.46**	*NS*	.42**	.25*	*NS*	*NS*

Notes. FPI = Cronbach's α for FPI Scale; TRT = test-retest reliability for the FPI Scale; PSQ = Patient Satisfaction Questionnaire; PCS = Patient Communication Style Scale; ISPI = Information-Seeking Preferences Index; GAS = General Adherence Scale; LNGTH = Length of time with physician; GHP = General Health Perceptions Scale; PTED = patients' education level.
†A meta-analysis of the correlations between FPI and PSAT for each of the five studies yielded a combined r of .67.
*p < .10; **p < .05; ***p < .01; ****p < .001.

mately 60% of the variance in medical satisfaction. Adherence was predicted by FPI, as well as by general health and preference for active communication (βs = .23, .31, and .19, respectively, all ps < .001; see Tables 1 and 2).

Study 3

Participants. Participants were 83 male and 250 female members of the faculty and staff in a southern California school district (grades K–12). Respondents' ages ranged from 18 to 67 (M = 42 y), and education levels ranged from grade school to doctorate, with 40% of respondents holding a Master's degree.

Measures. We used the same measures in this study as we used in Study 2.

Procedure. Questionnaires, accompanied by an informed-consent letter that briefly explained the study and asked for anonymous participation, and a postage-paid return envelope were distributed to 1,012 campus mailboxes. A response rate of approximately 33% resulted in a sample of 333 individuals (75% from women; information on the gender composition of the district as a whole was not available). Trained coders entered the data from the questionnaires into an SAS computer file and standardized all scale scores. We computed internal consistency for each scale and, as before, converted the data to a 0–100 metric. To assess hypothesized relationships and explore other associations among measures, we employed zero-order correlations. We used simultaneous multiple regression to test the hypothesized relationships.

Results. Means, standard deviations, and alpha reliabilities for each scale are shown in Table 1. Consistent with Study 2, respondents reported moderate-to-high levels of satisfaction, adherence, active communication style, desire for involvement, general health, and facilitation by their physicians. Once again, the FPI Scale showed high reliability (Cronbach's α = .91).

As in Study 2, physician's gender and patient's age, gender, and education levels were not significantly correlated with the FPI (all ps > .25). Correlational analyses indicated that the FPI, as hypothesized, was positively associated with patients' active communication style, level of adherence, general health, and satisfaction with the medical encounter (see Table 2). Active communication style was again correlated with medical satisfaction (r = .25, p < .0001).

According to regression analyses, patient education, physician gender, patient age, and patient gender were not

significant predictors of perceived facilitation (βs = .05, –.02, .03, and –.04, respectively, all *p*s > .34). A preference for active communication was predictive of greater perceived facilitation (β = .44, $p < .001$). Satisfaction was predicted by perceived facilitation (β = .76, $p < .001$), but not by general health or preferences for active communication and seeking information. FPI accounted for approximately 58% of the variance in patient satisfaction. Perceptions of facilitation, general health, and preference for active communication again predicted level of adherence (βs = .27, .26, and .24, respectively, all *p*s < .001).

Study 4

Participants. Participants in this study were 16 male and 28 female undergraduate students who visited the student health center at a small West Coast university in late fall 1997. Their ages ranged from 18 to 27 ($M = 23$ y). All participants had completed high school and at least 1 quarter of college study; the mean level of education was 8 quarters of college completed.

Measures. We use the same measures in this study as those described for Study 2.

Procedure. We set up a display table and recruitment poster in the waiting room of the student health center and posted advertisements in several locations on campus. The posters briefly described the study, requested that students pick up a consent form and an anonymous questionnaire after completing their health center appointment, fill it out, and return it to either the secure box provided in the center or through the campus mail. The form also included a tear-off sheet that solicited participant phone numbers for follow-up; these were number-coded to match the original questionnaire and retained for tracking retests. Those who participated received a $3 certificate for beverages at the campus coffee/juice bar.

Two months after the participants completed the questionnaires, we telephoned them and asked if they would be willing to complete a short portion of the questionnaire again for measurement purposes (the FPI only). Those who were willing provided us with an address and we mailed the FPI to them with a postage-paid return envelope. All 44 individuals (100%) provided follow-up data. The trained coders entered data from the questionnaires into an SPSS data file and standardized all scale scores. We used Cronbach's alpha reliability to compute internal consistency for each scale and again converted scale scores to a 0–100 metric. In addition, we used Pearson's *r* to assess test-retest reliability. We employed zero-order correlations to assess hypothesized relationships and to examine additional covariation among measures; we used simultaneous multiple regression to test the strength of predictor variables.

Results. All students were seen by the same physician, a man aged 48 years. The FPI Scale again demonstrated a high degree of internal consistency (Cronbach's α = .93); the 2-month test-retest reliability was .89. As in our previous studies, respondents reported moderate-to-high levels of satisfaction, adherence, active communication style, desire for involvement, general health, and facilitation by their physician (see Table 1).

Our correlational analyses showed that FPI was positively related to active communication style on the part of the patient and to level of self-reported adherence, although these associations were only marginally significant. (Results of correlations between validation measures and FPI are shown in Table 2.) Satisfaction with the encounter was again highly associated with perceived promotion of involvement as measured by the FPI. The association between active communication style and medical satisfaction was also marginally significant ($r = .34$, $p < .08$). We observed no associations between FPI and either level of information seeking or general health. Regression analyses demonstrated that, of the four satisfaction predictors (perceived facilitation, general health, preferences for active communication, and information-seeking), only perceived facilitation predicted satisfaction with the medical encounter (β = .71, $p < .01$), explaining more than 50% of the variance in satisfaction. As before, perceptions of facilitation and preference for active communication were predictive of level of adherence (βs = .32 and .27, respectively, both *p*s < .05).

Study 5

Participants. Twenty-seven male and 57 female patients at two private Southern California dental offices whose ages ranged from 24 to 71 ($M = 48$ y) participated in this study. We collected data between September 1998 and January 1999. All respondents had completed high school, and 42% had completed a baccalaureate degree; 7% held an advanced degree of some kind.

Measures. The measures we used in this study were similar to those described for Study 2, with wording modified to reflect a dental rather than medical encounter.

Procedure. We provided receptionists at the two dental offices with a short query to deliver to patients when they arrived for their appointments. After the patient had signed

in to the office, he or she was told that the dentists were participating in a study to find out about patient preferences in dental settings and asked if they would participate. If the patient expressed an interest, he or she was given a brief written description of the study, an informed-consent form, and the anonymous questionnaire (with a tear-off sheet requesting a phone number for follow-up). A postage-paid return envelope was provided, and all participants who took a questionnaire received a small token gift at that time, whether or not they later returned the questionnaire.

Of those who took questionnaires, 75% returned them. We telephoned those who returned the questionnaire 10 weeks after they had returned it and asked them if they would be willing to complete a short portion of the questionnaire (the FPI only) again for measurement purposes. Those who were willing provided an address, and we mailed the FPI to them, along with a postage-paid return envelope. Seventy-four (88%) of the original 84 individuals provided follow-up information. We handled data from the questionnaires and conducted analyses according to the exact procedures outlined for our previous studies.

Results. The FPI Scale again demonstrated a high degree of internal consistency (Cronbach's $\alpha = .89$); test-retest reliability was .85 over the 10-week period. This group reported moderate-to-high levels of satisfaction, adherence, active communication style, desire for involvement, general health, and facilitation by their dentists (see Table 1), which was consistent with results from our previous samples.

Our correlational analyses showed that the FPI was positively related to active communication style on the part of the patient, level of self-reported adherence, and degree of satisfaction with the encounter (see Table 2). The association between active communication style and dental satisfaction was also significant ($r = .38$, $p < .05$). Contrary to predictions, we observed no associations between perceived facilitation and either the level of information seeking or general oral health. As before, we found in regression analyses that only perceived facilitation was predictive of satisfaction with the dental encounter ($\beta = .68$, $p < .01$), accounting for more than half of the variance. General oral health and preferences for active communication and information seeking did not predict satisfaction. In this sample, neither perceptions of facilitation nor preference for active communication was predictive of adherence to the dental regimen.

COMMENT

The FPI Scale is demonstrably a reliable measure, in terms of both internal consistency and consistency over time, and is a useful tool for assessing patients' perceptions of physicians' (and dentists') facilitation. The findings indicate that the FPI is highly correlated with and highly predictive of patient satisfaction. In other words, satisfied patients are those who have personal physicians and dentists who actively promote their participation in their care. This finding (stable across our five samples) suggests a new line of inquiry in the investigation of patient satisfaction. Given the higher level of satisfaction among patients who report having facilitative healthcare providers, the issue of whether patient and provider characteristics give useful information above and beyond that explained by *perceptions* of the facilitation of patient involvement is an important area for future study.

The evidence regarding the validity of the FPI, although positive, is not unequivocally so. Evidence for discriminant validity is strong, with patient age, gender, and education level unrelated to the FPI. In terms of convergent validity, FPI was consistently associated with patients' preferred communication style, but it failed to demonstrate consistent positive associations with information-seeking preferences or with physicians' gender. The lack of association in this latter case was somewhat surprising, given the rather consistent findings in the literature that female physicians spend more time with patients and are more attentive to patients, exhibiting more smiling, touching, and eye contact than male physicians do.[11,22,24] Spending adequate time and being attentive are certainly important components of facilitation, but other components, such as communication skills in standardized situations and the amount of medical and psychosocial information given in the medical encounter, have been shown not to vary according to a physician's gender.[21,32]

Because the FPI Scale includes items that reflect communication skills and information giving, gender effects that rely more heavily on other aspects of facilitation may not have emerged. Note that approximately four times as many male as female providers in our samples may have also contributed to our inability to find the hypothesized relationship. We conducted ancillary analyses to identify whether this was the case by matching male with female physicians on the dimension of age, using Samples 2 and 3. Within each of these samples, each female physician was randomly matched with a male physician of the same age from the pool of male physicians. We conducted a matched-pairs t test to determine whether their patients perceived these male and female physicians differently in terms of their facilitation. Even with this matched sample, we found no physician gender differences in terms of the amount of facilitation the patients perceived. Thus, it seems most likely that, rather than failing to uncover gender-related differences that exist, we have operationalized facilitation so that

physician gender differences are not directly relevant to patient perceptions.

We found that criterion validity results were generally positive, but not entirely so for every scale. The FPI was strongly, significantly, and consistently related to patient-reported satisfaction, but we saw the hypothesized positive relationship with general health only in Studies 2 and 3. In Studies 2, 3, and 4, the FPI Scale was moderately correlated with self-reported adherence behaviors and also predictive of such behaviors, which suggests that patients who believed that their physicians and dentists would let them participate in the medical care process were, as shown in previous research,[26] generally more likely to follow their recommendations. This is of particular importance because adherence is one determinant of whether the patient actually achieves the desired health outcomes.[33,34] It is also consistent with other research showing that when patients are actively involved, they are more likely to understand the regimen, to believe in its importance, and to have identified and solved any potential problems with their physician before they begin the regimen.[26] When both the patient and the provider agree on the treatment, the patient is most likely to adhere to the treatment plan.

Readers must also keep in mind that our studies did not assess the specific regimens to which respondents may have been adhering (they were responding to a more general adherence measure). Being in good health, they were probably responding in terms of their more general tendency to adhere. These general tendencies may or may not be related to the degree to which their current physicians or dentists encourage their involvement. In addition, it may be that patient involvement and adherence are correlated because both are caused by a third factor, such as an interest in health.

Two important questions will arise as researchers conduct further studies with the FPI. The first involves the nature of the relationship of perceived facilitation to measured facilitative behaviors objectively. Our ongoing research seeks to determine whether all facilitative behaviors are equally important in fostering positive patient outcomes, such as satisfaction and adherence. If they are not, interventions might focus particularly on increasing those behaviors that are most important to patient outcomes.

The second major question involves the interaction between a healthcare provider's encouraging patient involvement and the patient's desire to be involved. Another focus of our ongoing research is an examination of outcomes related to complementary versus contradictory ideas about the patient's role. For instance, interactions between patients who want to be involved and physicians or dentists who hinder the patient's involvement are apt to be the most problematic. These interactions are also promising areas for research because they influence both objective and subjective patient outcomes.[35] Similarly, if a patient prefers to play a passive role but has a physician or dentist who constantly encourages involvement, conflict and dissatisfaction are again the likely outcomes. Therefore, it may be that facilitation is most important when viewed in the context of the "match" between the physician's facilitation and the patient's desire for involvement.

The FPI Scale offers a demonstrably reliable and valid way of quickly measuring the degree to which a patient feels that his or her physician or other healthcare provider promotes active involvement, but there are limitations in our studies. First, our samples were generally well educated and healthy and thus they do not represent the general population. There is, however, evidence that our results are consistent with findings of studies that surveyed less-educated and less-healthy individuals. For example, a recent study of diabetic patients (many of whom were low income and one fourth of whom had not completed the 6th grade) found that scores on the FPI were correlated with patient satisfaction ($r = .44$, $p < .001$). Of the satisfaction predictors in this study, the FPI was the best predictor of patient satisfaction (unpublished manuscript, Golin and associates. Diabetic patients whose doctors facilitate their participation in medical decision making are more satisfied with their care). Second, although the questionnaires in Study 2 were sent to a random sample of alumni and the questionnaires in Study 3 were distributed to the entire district, self-selection may have produced bias in the number of responses participants provided (33% response rate in each case). In Studies 4 and 5, response rates were substantially better (that is, most participants who took a questionnaire returned it), with more than 90% of the questionnaires returned. But participants in these two studies self-selected earlier in the process. That is, only those who were at least somewhat interested in participating bothered to take a questionnaire in the first place.

Another limitation of our studies is the low number of respondents who reported they had female healthcare providers. Although the ratio of female to male providers was low, this is not unusual in studies of this kind.[11] Because we made no special attempt to recruit individuals whose healthcare providers were women, our findings are probably an accurate reflection of the actual ratio of female to male practicing physicians and dentists.

Despite these limitations, we are encouraged by the high degree of reliability that this measure has consistently shown and by its strong ability to predict patient satisfaction. Because it is concise, it is easily used and should prove

to be a valuable tool for researchers and clinicians who wish to assess patients' perceptions of physician facilitation.

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APPENDIX
The Facilitation of Patient Involvement Scale

Directions: Please indicate how often your physician typically does the following things, using these responses: *none of the time* (1); *a little of the time* (2); *some of the time* (3); *a good bit of the time* (4); *most of the time* (5); *all of the time* (6).

1. My doctor gives me all the information that I need to make the decisions that are right for me.
2. My doctor ignores my opinion about treatment options. (–)
3. When prescribing a new medication, my doctor asks if I have any questions about the medication(s) and possible side effects.
4. My doctor discourages my questions. (–)
5. My doctor explains all the treatment options to me so that I can make an informed choice.
6. My doctor strongly encourages me to express all of my concerns about the prescribed treatment.
7. My doctor discourages me from expressing my personal opinion about my medical condition. (–)
8. My doctor's office staff makes it hard for me to be involved in my own medical care. (–)
9. My doctor makes it difficult for me to communicate my concerns about treatment decisions. (–)

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