

Title Page

Preliminary development and validation of the Patient-Physician Relationship Scale for Physicians (PPRS-Physician) for Disorders of Gut-Brain Interaction (DGBI)

Running Title: Patient-Physician Relationship Scale for DGBI

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Abstract

Background: An effective patient-physician relationship (PPR) is essential to the care of patients with irritable bowel syndrome (IBS). After developing a PPR questionnaire for patients, we sought to develop and validate an IBS-specific instrument to measure physician expectations of the PPR.

Methods: We conducted focus groups about PPRs among 15 clinicians who treat patients with IBS from community and academic centers. Qualitative analysis was used to generate the Patient-Physician Relationship Scale-Physician Version (PPRS-Physician), which was modified by content experts and usability testing. For validation, it was administered to gastroenterologists and fellows who treat IBS patients. Participants also completed the Jefferson Scale of Physician Empathy (JSPE). We performed principal components factor analysis for the scale.

Results: The PPRS-Physician contained 35 questions pertaining to interpersonal and psychosocial features considered desirable or undesirable in a relationship with IBS patients. 1,113 physicians (22%) completed the survey. Physicians were predominantly middle-aged (mean 55.1 years), male (85.0%), white (74.5%), and practiced primarily within group settings (61.6%), with an average of 25.7% of their patients having IBS. Factor analysis revealed three relevant factors: interfering attributes, positive attributes, and personal connection. The scale ranged from possible 0 to 100 (mean 83.8 SD 8.38). The Cronbach's alpha reliability measure of the scale was 0.938, indicating high internal consistency. There was a significant moderate,

positive correlation between JSPE and the PPRS ($p < 0.001$, $r = 0.488$), establishing concurrent validity.

Conclusions: We describe the development and validation of the first questionnaire to measure physician expectations of the PPR. This instrument can be used clinically, and for future studies on physician communication.

KeyWords (6, alphabetical order)

Disorders of brain-gut interaction (DGBI), irritable bowel syndrome, patient-provider relationship, survey

1 | INTRODUCTION

An effective patient-physician relationship (PPR) is an essential component of medical care, particularly in complex, poorly understood chronic conditions like irritable bowel syndrome (IBS).^{1,2,3} Generally, interventions aimed at enhancing either patient or physician communication have demonstrated improvements in patient satisfaction with care, treatment adherence, emotional well-being, symptom resolution, daily functioning, and even physiologic measures such as blood pressure.⁴ In conditions such as IBS, a chronic disorder of gut-brain interaction (DGBI) associated with abdominal pain and disturbed motility, the quality of the PPR is one of the most significant predictors of long-term prognosis, irrespective of pharmacological treatment used to treat the disorder.^{5,6} It is also often ignored as a treatment target.

For a variety of reasons, mutual understanding between IBS patients and physicians is often strained. Particularly with DGBI, in which laboratory and imaging studies are negative, stigma may contribute to physicians misunderstanding their patient's symptoms.^{3,7} Indeed, physicians tend to underestimate the number, severity, and impact of symptoms in IBS patients, more so than in patients with "organic" conditions such as Inflammatory Bowel Disease (IBD) or celiac disease, both of which cause similar symptoms to IBS but also have visible endoscopic or histologic findings.⁸⁻¹⁰ Gastroenterology fellows have demonstrated a preference for patients with organic versus functional diagnoses, and consider after-hours calls by patients with IBS to be less serious and less reasonable than calls from patients with organic complaints.^{8,11} These

effects may be attributable to clinicians feeling ill-equipped to manage IBS symptoms, or viewing them as out of their realm of responsibility.³ Such feelings among clinicians can lead to poor communication with and negative feelings for IBS patients.

When physicians feel stigma toward IBS patients, patients may suffer profoundly as a consequence.³ Many patients respond by rejecting the diagnosis, leaving them to manage the disease on their own with over-the-counter medications, often with unsatisfactory results.^{10,12} When such patients do accept the diagnosis, they may develop feelings of self-blame and guilt for having a condition not perceived as “real.”³ Overall, such challenges in the diagnosis and management of IBS threaten the morale of and relationship between patients and physicians; patients report feeling frustrated with suboptimal interactions with their physicians, whom they regard as unsympathetic and hostile,^{6,13,14} while physicians regard IBS patients as some of the most challenging patients to treat.¹⁵ In contrast, the basis of an effective and collaborative PPR involves mutual acceptance of the reality of the disorder and actions by the physician to convey that they are willing and able to work with their patient to treat the disease.

As supportive PPRs have been found to significantly improve symptoms and quality of life among IBS patients,¹⁶ employing strategies that enhance the quality of communication and therapeutic alliance between patients with IBS and their physicians may be critical for effective disease management. In order to study such interventions, validated instruments are needed to accurately understand both patient and physician expectations of this relationship. While a patient-facing scale to evaluate patient’s expectations of the PPR has been previously developed,¹⁰ to date there are no physician-based instruments to measure perceptions of the PPR. Here, we report for the first time the development of a psychometrically validated instrument, the Patient-Physician Relationship Scale, Physician Version (PPRS-Physician), to quantify physician’s expectations of the PPR in regards to their patients suffering from IBS, including the bi-dimensionality of its focus on both the strengths and weaknesses of the relationship. This instrument can be used in conjunction with the PPR-patient¹⁰ to assess the dyadic interaction of the PPR.

2 | METHODS

2.1 | Item Creation

The development of the questionnaire was part of a larger study of both patients and providers; the patient methods and results are previously reported.¹⁰ Two focus groups composed of practicing gastroenterologists from both academic and community practices were conducted using standard methods previously employed by the investigators in instrument development.^{17,18} Physician participants were recruited via verbal communication and email within the Department of Gastroenterology at a large academic healthcare system in the Midwest, and from a convenience sample of community gastroenterologists. For their participation, physicians received a \$20 Starbucks gift card and a meal.

Qualitative data was obtained by asking open-ended questions about the physician-patient relationship, and by observation of the discussion. After a set of introductory questions, a pre-determined sequence of questions relating to the qualities of positive and negative PPRs were asked. Other unscripted questions also were asked based on the discussion flow. Each session was audio taped to capture the words of the participants, and a research assistant (RA) took notes. Immediately after the focus groups, the facilitators and RA identified a complete list of common themes from the discussion. This standardized format was developed and used in previous publications.¹⁹

Using the items elicited from the focus groups, two preliminary questionnaires (one for patients and one for physicians, the latter of which we discuss here) were created to probe the factors felt to be most important to the PPR. Seven-item Likert scales (very undesirable to very desirable) were created for all items. Questions were phrased both positively and negatively to avoid introducing response bias. The team then reviewed all items, and redundant or clinically irrelevant items were removed (e.g, administrative staff support).

Cognitive debriefing and instrument adjustment was done by having a convenience sample of 10 gastroenterologists and GI fellows from an academic center, and six content experts assess whether the items were clear, understandable, redundant and/or unnecessary, and whether they had any suggestions for clarification or addition of topics. Modifications were made to the instruments based on this feedback.

2.2 | Validation

Physician participants were identified from a list of members of the American Gastroenterological Association in 2013. Participants were included if they endorsed practicing at least at least two half-days of clinic per week. Fellows were included. Pediatric physicians were excluded to control for differences in PPR with a pediatric patient population. Canadian physicians were excluded from the main analysis to control for possible differences in PPR within a different health system.

The physician survey was administered as a mailed paper survey to 6000 gastroenterologists (including GI fellows) after pilot-testing by members of the study team and the UNC Center for Functional GI and Motility Biometry Core at the University of North Carolina for functionality, visual appeal, and ease of use. Completed surveys were returned in pre-addressed envelopes, which were scanned and transferred electronically to the Biometry Core, and entered into a database.

2.3 | Instruments

Demographic features and professional practice characteristics were collected along with two questionnaires. Practice characteristics included fellow versus attending status, clinical workload, number of patients with IBS seen per week, physician age, gender, academic practice versus other professional role or primary care setting. Questionnaires included:

- a. The newly developed PPRS-Physician with 35 items (Appendix A)
- b. The Jefferson Scale of Physician Empathy,²⁰ a validated measure with 20 self-report items that fall under 3 domains (compassionate care, perspective taking, and emotional detachment). The wording for question 10 was modified to its current form for the purpose of clarity for this sample (I believe that emotion has no place in the treatment of mental illness).

2.4 | Analysis

Descriptive statistics for physician demographics and practice characteristics, as well as principal components factor analysis on the responses to the PPRS were generated. We evaluated the association of demographic and practice characteristics with scores on the PPRS using t tests and ANOVA. We evaluated correlations between the PPRS and the Jefferson Scale of Empathy. All analyses were performed using SAS statistical software (SAS Institute Inc. Cary, NC, USA).

In the scoring of the PPRS-Physician scale, all numeric values were converted to a 7-item Likert scale that ranged from 0-6, in which the 'Very Undesirable' score = ('0'), to 'Very Desirable' = ('6'). Reverse-coded (negative) items were scored inversely. In order to normalize the scale to be out of 100, we conducted a linear transformation that kept the psychometric properties of the scale constant. This scale is consistent with that used in the patient-centered study.¹⁰

2.5 | Ethics

This study was reviewed and found to be exempt by the health system's Institutional Review Board.

3 | RESULTS

Focus Group Participants

Fifteen physicians and one physician assistant participated in two focus groups. Mean age was 45.9 years (range 26-52). Five were female and nine were male. They had a broad range of clinical interests, estimated that approximately 1/3 of their patients had IBS (range 10-60%), and had been in practice an average of 16.3 years (range 1.5 to 20).

Survey Participants

Out of 6000 surveys administered to physicians from October 2015 through February 2016, 1313 were analyzed, with response rate of 22%.

3.1 | Survey Respondents

The sample of physicians responding to the survey was characterized as middle-aged (mean age 55.1 years, SD 9.97), male (85.0%), predominantly white (74.5%) and non-Hispanic (94.2%), primarily in group practice (61.6%) versus academic (25.4%) or solo practice (13.0%). The physician sample saw an average of 47.5 patients per week (SD 28.0), with an average of 25.7% of their patients having IBS (SD 15.6).

3.2. | Association of physician characteristics with PPRS-Physician scores

Table 1 displays the descriptive statistics of the physician sample that responded to the survey. The final scale ranged from 0 to 100 points, with higher scores indicating a higher value placed on the patient-provider relationship. The mean score in the sample was 83.8 and a

standard deviation of 8.38. Several physician characteristics correlated with a higher score on the physician version of the PPRS-Physician. Significant correlations were found with percentage of time clinicians spent on clinical activities (positively correlated, $r=0.073$, $p=0.009$), the number of patients seen in a week (negatively correlated, $r=-0.108$, $p<0.001$), and gender (females have significantly higher PPRS-Physician scores than males ($p=0.047$).

[Table 1].

3.3 | Factor Analysis of the PPRS-Physician

This is shown in Table 2.

[Table 2]

Shown in Table 2, each item in all three factors met the criteria of factor loading >0.4 from the EFA test. The factors clustered into three primary domains: Interfering attributes, positive attributes, and personal connection between physician and patient. Squared canonical correlations reveal that each of the 3 factors correlate well with the entire 35-item scale, validating the choice to use all 3 factors in the final scale.

Reliability/ Validity

The Cronbach's alpha of the scale was 0.938 indicating high internal consistency among all individual scale items with the overall PPRS. Additionally, there was a significant, positive, moderate correlation between JSPE and the new PPRS-Physician ($p<0.001$, $r=0.488$). Significant correlations with the JSPE were found with gender and the percent of patients in physician's practices that have IBS: females have significantly higher empathy scores than males, and those physicians who see a higher portion of patients with IBS have significantly higher empathy scores than those who see a lower portion of patients with IBS.

Discussion

An effective PPR is a critical component for the treatment of IBS and is associated with improved disease outcomes. However, many gastroenterologists regard IBS patients as among the most difficult patients to treat, feel ill-equipped to effectively treat their patient's symptoms,

and frequently underestimate the severity of patient's symptoms leading to frustration and stigma.⁹

Relative to the significant ongoing investigations around novel diagnostic and pharmacologic strategies for IBS, little investigation has gone on to explore ways to measurably improve the PPR. This under-investigated area is a potentially high-yield, low-cost strategy to improve patient outcomes including fewer clinic visits, fewer emergency room calls, and increased satisfaction for both patients and physicians.⁶ Additionally, there is a dearth of research examining physicians' perceptions of patients from both the positive and negative perspectives, including specific attributes that maximize the doctor-patient alliance. One major impediment to this area of inquiry is the lack of disease-specific research instruments to measure perceptions of IBS patients from the provider perspective.

Physician-facing surveys assessing the patient-provider relationship suffer limitations when applied in the context of DGBI. Instruments that have been developed for use in broader (non-IBS) populations mainly assess the physician's perceptions of how patients conform to physician's expectations.¹⁰ For example, the physician-rated Difficult Doctor Patient Relationship Questionnaire (DDPRQ) queries the extent to which patients are frustrating or self-destructive.²¹ No physician-directed surveys measure the positive attributes of an individual PPR, which may both contribute to and reflect the tendency of physicians to focus unproductively on "difficult patients,"^{22,23} when in fact these are difficult encounters that are understood to be a shared responsibility of the patient and physician.²⁴ This gap in the literature led to the subsequent development of our scale, the first psychometrically validated physician-facing scale that measures both positive and negative attributes of the PPR.

In this study, we found that higher scores on the PPRS-Physician and the JSPE were found among female physicians and those who see a higher portion of IBS patients. The relationship between female gender and higher scores on both scales may be contextualized with well-documented meta-analytic findings that female physicians in primary care engage in more patient-centered communication than their male counterparts, have more psychosocial conversations and partnership-building, and are more encouraging of patient participation in clinical interactions.^{25,26} We hypothesize that higher scores among those physicians who see a

higher portion of IBS patients likely reflects the learned communication skills and competence required to successfully manage IBS in the clinical setting. In addition, we found that physicians have multiple impressions of their patients that fit into three clinically meaningful domains, based on specific patient characteristics. These domains include interfering attributes, positive attributes, and behaviors that foster an interpersonal connection.

Interfering attributes refer to behaviors or tendencies that patients engage in that undermine the quality of the PPR. Such interfering behaviors include catastrophizing (e.g. believing the worst outcomes will happen, in the absence of evidence), having multiple complaints at once, taking more than the allotted amount of a physician's time, rambling, seeming impatient, pessimistic, antagonistic, manipulative, or disinterested, setting unrealistic treatment goals and priorities, disagreeing with physician's plan of care, seeming "emotionally unstable," and possessing psychiatric co-morbidities.

Some of these interfering attributes reflect behaviors that might seem be outside of a physician's control (e.g. patients seeming impatient, pessimistic, antagonistic, manipulative, etc.). However, these may be modifiable through clinician skills training in communication techniques that "reset" physician's personal expectations of their patients to improve relationship quality (e.g., accepting perceived antagonistic, demanding, or manipulative behaviors). Other attributes such as "seeming emotionally unstable" or possessing psychiatric co-morbidities, might point to a gap in clinical training, for instance, that gastroenterologists are not adequately trained to manage the co-morbid psychopathology that patients with IBS might possess, or that there are conscious or unconscious biases at play negatively impacting perceptions toward patients with mental illness.

Gastroenterologists can learn and practice specific communication techniques when working with patients who ramble, take excessive amounts of time, and have multiple complaints. Strategies might include physicians stating up front that they will not have time to address everything in a single visit, but rather can focus on one or two complaints, and then allow a limited time for the patient to share what has been going on, what their concerns are, etc., before asking more pointed questions. Simply validating patient's concerns can help patients feel heard and allied with. These interfering attributes are potential targets for interventions in

training programs and continuing medical education (CME) to help physicians feel better equipped to manage difficult circumstances, either through directly modifying patient behaviors with education, or by modifying physician's expectations. The Rome Foundation has established a program for helping clinicians increase awareness and knowledge in these areas and develop meaningful skills to improve patient and provider satisfaction:

<https://theromefoundation.org/programs-projects/rome-foundation-communication-program/>

The second clinically meaningful domain involves positive attributes that patients possess that promote the quality of the PPR. These include actively listening, allying with the physician, possessing similar expectations as the physician, being respectful of time, dependable, insightful, honest, open to suggestions, and resilient, having a sense of humor, demonstrating understanding of the physician, sharing responsibility with the physician, being willing to talk about psychosocial complaints, and feeling able to manage his/her disease. These PPR-promoting attributes may be explicitly discussed between patients and physicians when meeting for the first time and establishing goals of care. For example, physicians may share that they expect that their patients to be honest, share responsibility, be mindful of time, and talk about psychosocial aspects of their lives. Subsequently, physicians must be willing to hear what their patient's expectations of them are so that they can best cater treatments; for this, the PPRS-Patient Version¹⁰ may be utilized. Physicians can focus on helping their patients develop insight into their disease and develop resilience through teaching, promoting optimism, or referring patients to mental health providers who focus exclusively on these domains. They can also provide patients with tools to feel more confident managing their disease such as suggesting that patients keep a symptom diary, use deep breathing, and/or cognitive behavioral or positive psychology strategies.²⁷ As with the interfering behaviors, these positive attributes may serve as content that can be explicitly emphasized in communication skills trainings.

The third and final behavioral domain involves patient attributes that foster a personal connection with the physician. As with the other domains, some of these factors may be modifiable on behalf of the patient or physician (such as showing gratitude or acting respectfully), while others are more fixed (being well-educated). We hypothesize that patients who are well-educated are better able to forge personal connections with their providers because doctors themselves are a highly educated population. Indeed, research reveals that people tend to

feel more empathy for individuals who remind them of themselves, are more attractive, and who share the same ethnic or national background.²⁸ While empathy is often considered an unmitigated moral good in medicine, it is important to note that it may take more effort by physicians to feel and act empathically for patients who they perceive as different from themselves (e.g., patients who possess psychiatric comorbidities).²⁹ Thus, the PPRS-Physician may be used in training settings to help doctors understand their own potential biases and guide strategies to improve the ability to build partnerships with all patients, irrespective of how similar they are to the physician.

The results of this study have important implications for clinical training and practice. As stated throughout this section, the PPRS-Physician may be used in training programs and in CME to help educate physicians on behaviors that may be expected in the IBS population, and how physicians can best manage such behaviors to maximize the quality of the PPR. Additionally, the scale can be useful in highlighting potential stigma or biases clinicians have for patients with particular characteristics so that physicians can modify potentially damaging behaviors. It can also be used to specifically identify providers who might benefit from participating in educational programs on communication skills, or to assess the results of such a program before and after a training program.

Physicians may also use the instrument directly with patients within the clinical setting, in conjunction with the PPRS-Patient Version.¹⁰ Together, these instruments may assess the bilateral perceptions of the PPR from both the patient and provider perspectives, to provide insight into dis/concordance. Figure 1 represents the dimensionality of the PPR, with quadrant I serving as the desired state for a solid alliance. In contrast, quadrant III, which represents a strained relationship for both parties, could prompt discussion of incompatibilities and possibly termination of the relationship if differences cannot be reconciled. Quadrants II and IV represent cases in which patient and physician are discordant in their views. Exploration of these differences can elucidate ways to improve the relationship. Finally, while this instrument was designed specifically for the IBS patient population, it may certainly be applied and studied in other clinical populations as well.

[Fig. 1]

We believe that the benefits of emphasizing the PPR in the treatment of IBS are far-reaching. A high quality PPR can improve symptoms and quality of life for IBS patients.³⁰ and subsequently make clinical care more rewarding for physicians. Physicians may yield more meaningfulness in treating “difficult” or “challenging” patients, save time, avoid malpractice claims,³¹ and ultimately engage in better clinical decision-making.³²

This study has a number of strengths since the questions were developed through a rigorous multi-step process that has been previously used in instrument development. It has been validated among a nationwide sample of adult gastroenterologists and gastroenterology fellows in the United States. Limitations of the study include a 22% response rate by US gastroenterology physicians only, and a cohort that was majority white, middle-aged, and working in group practices. Additionally, although a vast burden of IBS is managed within primary care settings, this study was only conducted among gastroenterologists in order to maximize the clinical relevance of the topic for study participants. Although we believe that adoption of this scale by any clinicians who treat IBS/DGBI patients will be useful for clinical care and education, given cultural, professional, and health system differences in doctor-patient communication, this scale will need to be replicated and adapted with a more heterogeneous population of clinicians to fit within other health systems and clinical settings (e.g. primary care). Finally, we have not yet tested the patient and physician scales together to determine their agreement with each other and the impact of these 2 scales on outcomes; this will be a next step.

In conclusion, we have developed a psychometrically valid PPR questionnaire that may be used to assess physician’s perceptions of their patients with IBS.

Key Points (80 words)

- A high-quality patient-physician relationship (PPR) is essential to treating IBS
- We describe the development and validation of a scale of physician expectations of their patients with IBS
- This instrument may be used for education and research purposes.

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Figure Legends

Figure 1. A two dimensional schema for positive and negative patient-physician relationships based on both patient and physician perceptions.

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- CM analyzed the data
- SB helped with statistical advising, scale scoring and normalization
- JF, LK, and DD wrote the paper

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1 Appendix A. Items included in the Patient-Provider Relationship Scale-Physician

2

1. Patient is allied with me
2. Patient does not participate in the relationship
3. Patient is flexible enough to change
4. Patient has similar expectations as me
5. Patient catastrophizes
6. Patient is respectful toward me
7. Patient seems impatient
8. Patient has many complaints
9. Patient seems to ramble
10. Patient takes a lot of time
11. Patient shares responsibility with me
12. Patient is pessimistic
13. Patient disagrees with me on a plan of care
14. Patient seems antagonistic
15. Patient is willing to talk about psychosocial issues
16. Patient listens actively
17. Patient is respectful of time
18. Patient seems demanding
19. Patient has a sense of humor
20. Patient has insight
21. Patient seems manipulative
22. Patient is not adherent to treatment
23. Patient is dependable
24. Patient understands what I say
25. Patient seems disinterested
26. Patient is resilient
27. Patient is well educated
28. Patient is open to suggestions

29. Patient seems emotionally unstable
30. Patient has unrealistic goals and priorities
31. Patient is honest
32. Patient makes a personal connection
33. Patient is grateful for my help
34. Patient feels able to manage his/her IBS symptoms
35. Patient has psychiatric comorbidities

3

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Tables

Table 1: Descriptive Characteristics of Physician Respondents

Variable	N (%)
Female	195 (14.98)
Male	1107 (85.02)
Age	
34-40	94 (7.26)
41-50	296 (22.87)
51-60	436 (33.66)
61-70	385 (29.74)
71-80	77 (5.95)
81-85	7 (0.54)
Race	
White/Caucasian	970 (74.50)
African American	26 (2.00)
Asian	222 (17.05)
Native American	1 (0.08)
Pacific Islander	3 (0.23)
Other	49 (3.76)
Declined	31 (2.38)
Ethnicity	
Hispanic	61 (4.69)
Not Hispanic	1227 (94.24)

Declined	14 (1.08)
Half-days of clinic per week	
2-3	406 (30.92)
4-5	621 (47.30)
>5	286 (21.78)
% Time spent on clinic activities	
0-30	26 (2.00)
31-60	121 (9.30)
60-99	559 (42.94)
100	596 (45.78)
Average number of patients seen per week (range = 0-230)	
0-35	524 (40.31)
36-70	551 (42.36)
71-105	187 (14.37)
>105	39 (2.99)
% Patients seen in your clinic having IBS	
0-33%	998 (76.48)
34-66%	279 (21.38)
67-100%	28 (2.15)
Primary Practice Setting	
Solo practice	170 (13.01)
GI group practice	805 (61.59)
Academic practice	332 (25.40)

Table 2: Exploratory factor analysis of the new PPRS-Physician

Domain	Item	Factor loading	Squared Canonical Correlations
Interfering	Catastrophizes	0.618	0.955
	Seems impatient	0.697	
	Has many complaints	0.786	
	Rambles	0.787	
	Takes a lot of time	0.733	
	Is pessimistic	0.594	
	Disagrees with my plan	0.561	
	Seems antagonistic	0.634	
	Seems demanding	0.750	
	Seems manipulative	0.728	
	Is not adherent to treatment	0.558	
	Seems disinterested	0.585	
	Seems emotionally unstable	0.711	
	Has unrealistic goals	0.613	
Has psychiatric comorbidities	0.516		
Positive	Is allied with me	0.536	0.854
	Does not participate in the relationship	-0.470	
	Is flexible enough to change	0.628	
	Has similar expectations to me	0.502	
	Shares responsibility with me	0.677	
	Listens actively	0.728	
	Respects time	0.549	
	Has a sense of humor	0.548	
	Has insight	0.732	
	Is dependable	0.591	
Understands what I say	0.681		

Is resilient	0.346
Open to suggestions	0.688
Is honest	0.687
Feels able to manage their IBS	0.577
Is willing to talk about psychosocial issues	0.591

Figure Legend

Figure 1. A two dimensional schema for positive and negative patient-physician relationships based on both patient and physician perceptions.

Figure 1.

