



## A questionnaire identifying four key components of patient satisfaction with physician communication



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### ABSTRACT

**Objective:** To improve efficiency and retain the 4 factors of a reliable, valid interview satisfaction questionnaire (ISQ).

**Method:** 105 residents conducted 301 patient-centered interviews with 10 simulated patients (SP). SPs portrayed three scenarios for each resident and completed the ISQ and the Communication Assessment Tool (CAT) after each. A confirmatory factor analysis (CFA) of the ISQ and CAT determined which items had >0.5 factor loadings and <0.1 error, criteria for retaining items in a shortened scale.

**Results:** After the CFA, 13 items were deleted resulting in a 12-item scale (RMSE = 0.06) that confirmed the initial 4 factor structure of satisfaction with: open-endedness, empathy, confidence in the resident, and general. Scale reliability of each factor was high (Cronbach's alpha ranged from .74 to .93). Demonstrating concurrent validity, all four factors of the ISQ correlated highly with the one-factor CAT ( $r > .7$ ,  $p < .001$ ), and the second order unidimensional ISQ scale also correlated highly with the CAT ( $r = .83$ ,  $p < .001$ ).

**Conclusions:** The ISQ is an efficient, reliable, and valid instrument that uniquely deconstructs satisfaction with the patient–physician interaction into 4 key components.

**Practice implications:** The 4 components provide a means for better understanding poor satisfaction results.

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## 1. Introduction

Patient satisfaction, defined here as the patient's positive or negative response to a specific physician–patient interaction, has been linked to greater adherence to therapy [1–3] and fewer malpractice lawsuits [4]. The patient-centered approaches incorporated into the training of medical personnel are key determinants of patient satisfaction [5–8] and are associated with improved health outcomes [9–13]. For this report, we define the patient-centered interaction in the specific behavioral terms used by the patient-centered method detailed in Table 1 [14]. The Interview Satisfaction Questionnaire (ISQ) reported here [8–10,15] is based on this method. The ISQ thus is a measure of both the patient-centered method and of just one of the many dimensions of patient satisfaction; e.g., it does not address satisfaction with office personnel.

Although a large number of scales have been created to evaluate satisfaction, there are gaps in the field. Only a few questionnaires have strong psychometric properties, and comparisons of measures are rare [16–18]. Useful questionnaires, however, do exist; to name a few, the Communication Assessment Tool (CAT) [19], the Four Habits Questionnaire [20], and the Common Ground instrument [21].

Our research team observed that the original ISQ (then named 'Satisfaction with the Physician Patient Relationship;' Appendix A) was too long and created considerable respondent burden for a large interventional project requiring the evaluation of hundreds of interactions. This report describes shortening the 25-item ISQ while retaining the four factors: opportunity to disclose concerns [open-endedness], physician's empathy, confidence in physician's abilities, and overall satisfaction with the interaction. These factors have considerable potential for the field because they provide a new opportunity to better pinpoint where problems reside when one obtains poor satisfaction scores.

This study evaluated the following research questions: (i) if the ISQ could be shortened from 25 items to 15 items or less while retaining high reliability and validity and maintaining the same

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**Table 1**  
Evidence-based patient-centered interviewing method.

Patient-centered interviewing method (5–steps, 21–substeps)
STEP 1—setting the stage for the interview
1 Welcome the patient
2 Use the patient's name
3 Introduce yourself and identify specific role
4 Ensure patient readiness and privacy
5 Remove barriers to communication (sit down)
6 Ensure comfort and put the patient at ease
STEP 2—chief concern/agenda setting
1 Indicate time available
2 Forecast what you would like to have happen in the interview; e.g., check blood pressure
3 Obtain list of all issues patient wants to discuss; e.g., specific symptoms, requests, expectations, understanding
4 Summarize and finalize the agenda; negotiate specifics if too many agenda items
STEP 3—Opening the history of present illness (HPI)
1 Start with open-ended beginning question focused on Chief Concern
2 Use 'nonfocusing' open-ended skills (attentive listening): silence, neutral utterances, nonverbal encouragement
3 Obtain additional data from nonverbal sources: nonverbal cues, physical characteristics, autonomic changes, accouterments, and environment
STEP 4—continuing the patient-centered history of present illness (HPI)
1 Elicit Physical Symptom Story—Obtain description of the physical symptoms using Focusing open-ended skills
2 Elicit Personal and Social Story—Develop the more general personal/social context of the physical symptoms using Focusing open-ended skills
3 Elicit Emotional Story—Develop an emotional focus using Emotion-seeking skills
4 Respond to Feelings/Emotions—Address the emotion(s) using Emotion-handling skills
5 Expand Story—Continue eliciting further personal and emotional context, address feelings/emotions using Focusing open-ended skills, Emotion-seeking skills, Emotion-handling skills
STEP 5—Transition to the doctor-centered history of present illness (HPI)
1 Brief summary
2 Check accuracy
3 Indicate that both content and style of inquiry will change if the patient is ready

4-factor structure; (ii) if the four factor structure found with all data combined would hold across different medical scenarios; (iii) if the 4-factor pattern would have a second order unidimensional scale; and (iv) if the ISQ would correlate with a satisfaction measure also having strong psychometrics, the CAT [19].

## 2. Methods

### 2.1. Setting and participants

This study was a subset of a large interventional study testing the impact of mental health and patient-centered interviewing training on medical residents [22]. For this report, we evaluated residents once in a modern Simulation Center where their interviews with standardized patients (SP) were recorded digitally. Twelve SPs evaluated interactions with residents using the ISQ and CAT and were primarily female ( $n=8$ ), and Caucasian ( $n=11$ ), and ranged in age from 38 to 58. The 105 residents interviewing the SPs were mostly male ( $n=63$ ) and international graduates ( $n=57$ ). Ethnicity of residents included Asian ( $n=49$ , 47%), Caucasian ( $n=29$ , 27%), Black ( $n=6$ , 6%), Hispanic/Latino ( $n=1$ , 1%), and another race or ethnicity ( $n=20$ , 19%). At the time of data collection, residents had from zero to three years of training in the three models studied.

SPs met with residents during May, June, or August over three consecutive years (2012–2014). Each SP was trained for a total of 20 h at the time of initial data collection; SPs subsequently received approximately 6.5 h of training/year and their fidelity to the scenarios was verified yearly. SPs were paid for their participation through a Health Resources and Services Administration grant. The instructions, scenarios, and scripts that SPs received are available from the authors.

### 2.2. Procedure/design

Residents were evaluated by SPs in three scenarios that assessed different patient-centered skills: (i) for gathering data from the patient and building a relationship, much as seen in a basic patient-centered interview using the method in Table 1; (ii) for informing and motivating a patient to quit smoking; and (iii) for addressing a chronic pain patient seeking narcotics. The latter two include many of the basic skills of the first but concern the additional issues noted, which creates variation in ISQ responses. Instructions to residents prior to their SP interactions are available from the authors. Each SP was trained for only one of the three scenarios. To minimize the risk of participant fatigue, SPs saw a maximum of 6 residents in one day. Interactions were videotaped, and cameras were out of the view of SPs and residents. Each scenario was allotted 15 minutes, and occurred in a room designed to simulate a real examination room. After each scenario, a computer-assisted self-report evaluation of both the ISQ and the CAT was completed by SPs over 5–10 min.

### 2.3. Instrumentation

The 25-item ISQ has been shown by confirmatory factor analysis (CFA) in an earlier study to measure four dimensions of satisfaction: opportunity to disclose concerns, physician's empathy, confidence in physician, and general satisfaction [15] (see Appendix A). Items were measured on 5-point Likert scales, ranging from strongly disagree (1) to strongly agree (5); items 4, 15, 17, and 24 are reverse scored. The original scale reliabilities of the 25-item form ranged from 0.71 to 0.89 [8,15]. An association of improved satisfaction scores and better health outcomes was later evidence of validity from two RCTs [9,10].

The 14-item CAT is a similar measure of the provider-patient interaction where exploratory factor analysis demonstrated that the items formed a single factor [19]. Items were measured on 5-point Likert scales, ranging from poor (1) to excellent (5). Its items can be found in Supplemental online Table 1.

#### 2.4. Statistical analysis

Construct validity is the degree to which the units, treatments, observations, and settings in a study correspond to the constructs that they are intended to represent [23]. Construct validation has three components: (1) logical analysis, (2) internal-structure analysis, and (3) cross-structure analysis [24]. We focused on the first two.

##### 2.4.1. Logical analysis

Logical analysis included: (1) evaluating the definition of satisfaction and the four variables that make it up, (2) analyzing the content of the items in each variable to ensure that they were consistent with the definition of the variable, and (3) examining the method of measurement, the directions to SPs, and the scoring procedures [24].

##### 2.4.2. Internal structure analysis

Internal structure analysis was conducted via CFA on the ISQ using Gerbing's lessR Package software, which was adapted from Hunter and Gerbing's Package software, and employs centroid

oblique groups analysis for parameter estimation [25]. The measurement model, the four factor structure, was specified *a priori* based on the previous CFA [15], which was based on the 5-step patient-centered method [14] that described the relationships among the items. The earlier research found that satisfaction comprised four variables or factors.

### 3. Internal consistency

Each of the four factors of satisfaction, comprising multiple items, were factor analyzed using CFA [26]. Internal consistency was used to test the fit of the model based on the internal consistency theorem ( $r_{ij} = r_{iT}r_{jT}$ , in which  $i$  and  $j$  are alternate indicators of the same underlying construct,  $T$ ). The theorem generated predicted correlations between the items that were indicated as alternative indicators of the same latent variable. Internal consistency was evaluated on variables that were over-identified (had 4 or more items). Each predicted correlation was then compared with its respective observed correlation, and the errors or residuals were identified. Items with large errors ( $e > .15$ ) and which loaded higher on other factors than the factor specified were eliminated prior to conducting tests of parallelism.

### 4. Parallelism

The parallelism theorem ( $r_{ij} = r_{iT}r_{jU}$ , where  $i$  is an indicator of a latent variable,  $T$ , and  $j$  is an indicator of a latent trait,  $U$ ) generated

**Table 2**  
Confirmatory factor analysis for the interview satisfaction questionnaire (ISQ).

Questionnaire number	Item	Factor loading	M	SD
Factor 1: Opportunity to disclose concerns ( $\alpha = .828$ )				
1 <sup>a</sup>	I told the physician everything that was on my mind	N/A	4.14	1.07
<b>2</b>	<b>I was able to tell the physician what was bothering me</b>	.84	4.27	1.02
4 <sup>b</sup>	The physician made me feel rushed	N/A	4.00	1.36
9 <sup>a</sup>	I got to ask the physician all of the questions I wanted	N/A	4.44	.92
<b>10</b>	<b>The physician spent the right amount of time with me</b>	.78	4.05	1.81
<b>21</b>	<b>The physician made it easy for me to ask questions</b>	.74	4.27	.981
24 <sup>a</sup>	The physician did not spend enough time with me	N/A	3.81	1.37
Factor 2: Physician's empathy ( $\alpha = .739$ )				
3 <sup>a</sup>	I felt understood by the physician	N/A	4.20	1.04
6 <sup>a</sup>	The physician made me feel comfortable enough to tell everything that was bothering me	N/A	4.06	1.21
<b>8</b>	<b>The physician gave me undivided attention</b>	.59	4.72	.58
14 <sup>a</sup>	The physician really cared about me as a person	N/A	4.12	1.10
15 <sup>a</sup>	The physician acted like I did not have any feelings	N/A	4.44	1.00
<b>16</b>	<b>The physician treated me with a great deal of respect</b>	.78	4.51	.77
17 <sup>b</sup>	The physician "talked down" to me	N/A	4.54	.91
18 <sup>b</sup>	The physician was kind and considerate of my feelings	N/A	4.29	.99
<b>19</b>	<b>The physician tried to make me feel relaxed</b>	.73	3.92	1.10
20 <sup>a</sup>	The physician relieved my worries about medical conditions	N/A	3.54	1.26
22 <sup>a</sup>	The physician listened closely to me	N/A	4.42	.93
Factor 3: Confidence in physician's abilities ( $\alpha = .930$ )				
<b>5</b>	<b>I had confidence in the physician's abilities</b>	.82	4.15	1.06
<b>12</b>	<b>The physician always seemed to know what he/she was doing</b>	.93	4.18	1.07
<b>13</b>	<b>I have a good deal of confidence in the physician</b>	.96	4.04	1.08
23 <sup>b</sup>	I trust the physician	N/A	4.14	1.05
Factor 4: General satisfaction ( $\alpha = .878$ )				
<b>7</b>	<b>The physician made it easy to understand what, if anything, was wrong with me</b>	.73	3.89	1.17
<b>11</b>	<b>I was pleased with my visit with the physician</b>	.94	3.95	1.20
<b>25</b>	<b>Overall, I am satisfied with the physician</b>	.86	3.98	1.20

The final, 12-item ISQ items are bolded, comprising items not dropped, summarized in Appendix B.

N/A = not applicable. The factor loadings for items dropped during tests of internal consistency or parallelism are not applicable, as these items were dropped from the CFA and therefore do not have a relevant factor loading.

<sup>a</sup> Item dropped when failed tests of internal consistency.

<sup>b</sup> Item dropped when failed tests of parallelism.

**Table 3**  
RMSE scores for each of the parallelism blocks of the interview satisfaction questionnaire.

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1: Opportunity to disclose concerns				
Factor 2: Physician empathy	.07			
Factor 3: Confidence in physician	.026	.039		
Factor 4: General satisfaction	.04	.09	.04	

Note: RMSE is a goodness of fit statistic and acceptable values are <0.2.  
Overall RMSE = .06.

predicted correlations between all items that are indicators of different latent variables, and predicted correlations were again compared to their respective observed correlations and residuals were considered a good fit when there were ample factor loadings and small residuals [25] ( $e < .15$ ). All items yielding the highest loadings and smallest residuals for each factor remained in the final version of the scale.

Once the CFA was conducted with all data combined and having removed items with low factor loadings and/or high error, separate CFAs were conducted on each of the four updated factors for each of three scenarios. Although the amount of data was limited in these instances ( $n = 105$ ), finding a factor structure that held across the different medical scenarios would enhance the validity of the ISQ. Since factors were under-identified (had 3 or fewer items) once problematic items were removed, tests of parallelism could only be conducted on the finalized scale [27]. Parallelism is a better method for discovering weak items than the test of internal consistency because it reveals the weak items included in a cluster to which they do not belong [27]. Further, the important formulas involved for either test are the formulas for correction for attenuation, which relies only on parallelism [27]. Therefore, the under-identified factor model for each of the four factors was judged to be acceptable.

After the best factor structure was determined, factors were tested for second order unidimensionality; the factors were treated as individual items and traditional CFA was performed. A second order unidimensional scale contains specific factors that produce multidimensionality, yet are trivial as the factors correlate highly with one another and in similar ways with other variables [25]. Finding the scale second order unidimensional therefore confirms that the four variables are components of an overarching construct of satisfaction.

Using similar procedures, CFA also was conducted on the CAT.

Finally, the SP's ratings on all items were examined for systematic error in the range and variance for each rater, for each factor, and for the scale as a whole.

## 5. Results

With ongoing monitoring by the research team, two SPs introduced late into the study (to improve manpower) exhibited little or no range or variance on ratings across physicians and were quickly dropped. Their data were omitted from all analyses, resulting in a reduction of 14 total ratings from the maximum of 315 (105 residents rating 3 scenarios). The resulting data set contained 10 SPs with a total of 301 ISQ and CFA scores.

### 5.1. Question 1

**Internal Consistency.** For the *opportunity to disclose concerns* scale, tests of internal consistency via CFA resulted in the deletion of three items (Items 1, 9, 24) because the errors between obtained and predicted inter-item correlations were large. The residual four-item solution had ample factor loadings and the errors between predicted and obtained inter-item correlations were small ( $e < .05$ , goodness of fit Root Mean Squared Error [RMSE] = .026). For items

designed to measure *physician's empathy*, tests of internal consistency resulted in the deletion of six items (Items 3, 6, 14, 15, 20, 22), and the residual five-item solution had ample factor loadings and small error (RMSE = .03). The third factor, *confidence in physician's abilities*, had a four-item solution. All items were retained because the error associated with each item was small (RMSE = .02). The final factor, *general satisfaction*, was under-identified, and therefore not tested for internal consistency. The factor loadings and descriptive statistics for all factors and their corresponding items can be found in Table 2. Retained items for the final, 12-item ISQ are highlighted in Table 2, also summarized in Appendix B.

#### 5.1.1. Parallelism

For *opportunity to disclose concerns*, tests of parallelism indicated all four remaining items except item 4 were parallel to other scales. Item 4 was deleted due to large errors between the predicted and obtained relationships ( $e > .15$ ), resulting in a three-item solution for the first factor of the ISQ. For the *physician's empathy* factor, from the five remaining items, items 17 and 18 ( $e > .10$ ) were eliminated resulting in a 3-item unidimensional scale that is parallel to the other factors. For the *confidence in physician's abilities* scale, from the remaining items, one item (Item 23) was deleted from the scale ( $e > .20$ ), resulting in a three-item unidimensional scale. All three items were retained for the *general satisfaction* scale. The reliabilities, factor loadings, and descriptive statistics for each of the four factors and their corresponding items can be found in Table 2. RMSE's for each parallelism block, as well as the overall 12 item scale, can be found in Table 3. The results answer research question 1 by demonstrating significant shortening of the ISQ while maintaining the four-factor structure.

### 5.2. Question 2

The data for all three medical cases were analyzed separately with the new factor structure, and data remained consistent with the four-factor pattern found with all data combined. See Supplemental online Table 2, Supplemental online Table 3, and Supplemental online Table 4 for a breakdown of the data for each of the three cases. Research question 2 was answered by demonstrating that the four-factor structure held across the different scenarios.

**Table 4**

Second order unidimensional factor analysis for the interview satisfaction questionnaire.

Item	Factor loading	M	SD
Factor 1: Opportunity to disclose concerns	.82	4.17	.92
Factor 2: Physician's empathy	.76	4.37	.68
Factor 3: Confidence in physician's abilities	.85	4.09	1.01
Factor 4: General satisfaction	.95	3.82	1.08

Note: Second order unidimensional scale reliability ( $\alpha = .90$ ).

### 5.3. Question 3

Data were consistent with the second-order factor structure. Factor loadings were ample and errors were small (RMSE = .04). The reliability, factor loadings, and descriptive statistics can be found in Table 4. Data answer research question 3, that the 4 factors combined represented one overarching construct of satisfaction.

### 5.4. Question 4

All four factors of the ISQ correlated highly with the CAT ( $r > .7$ ), demonstrating concurrent validity; see Table 5. Additionally, the second order unidimensional ISQ, highly correlated with the CAT ( $i = .83, p < .001$ ). The results answer research question 4 by demonstrating significant correlation with the CAT, establishing concurrent validity

## 6. Discussion, conclusions, and practice implications

### 6.1. Discussion

In answering the research questions, the study demonstrated the ISQ could be reduced to 12 items with high reliability and concurrent and construct validity. The ISQ also retained the four factor structure, and it held across all three scenarios. The second order unidimensional scale remained highly reliable, indicating that the four factors all were subsets of an overarching patient satisfaction construct.

The results indicate the potential for using the ISQ in routine, high stakes professional assessments such as promotion, graduation, and licensure [16,21]. Medical school and residency educators can assess learners' interactional skills from the patient's perspective. Hospital administrators and educators can use the ISQ to monitor and evaluate their physicians' patient satisfaction scores to enhance performance on the Hospital Consumer Assessment of Healthcare Providers and Systems [28,29].

In a rare comparison of two measures [16,18], we compared the ISQ and the CAT [19]. The CAT is a reliable and well-validated measure of considerable value. The research reported here, in fact, supports its use—and vice-versa. This raises the question of the role of a new measure such as the ISQ. While considerable similarities exist, there are differences. The ISQ mirrors the content of a patient-centered interviewing method demonstrated in RCTs to be learnable [8] and associated with improved patient outcomes [9,10]. This highlights a strong empirical base for the content of the ISQ and a solid theoretical base in the biopsychosocial model [30–32]. Because the patient-centered method on which the ISQ is based derives from and behaviorally operationalizes previous consensus conferences and other research and educational literature, the ISQ encompasses the broad spectrum of essential patient-centered skills [13,33–39]. This means that the ISQ can be

used to evaluate all patient-centered practices, not just those teaching the specific method.

For educators, the ISQ offers an additional advantage. It, for the first time, deconstructs patient satisfaction into four unique dimensions, allowing evaluators to pin-point areas of strength and weakness. For example, a learner might have similar low scores on both the ISQ and CAT, but the ISQ factor scores could reveal where the problem resides and thus guide subsequent training; e.g., finding deficiencies in open-ended skills but better empathic skills, the educator would focus on the learner's open-ended skills.

Although actual patients were used in prior studies of the ISQ [8–10], a limitation is that we derived our data from SP interactions. While some data indicate that administering questionnaires to real patients in a non-evaluation atmosphere would be a stronger test of the scale, other research demonstrates that SPs are able to assess providers and accurately portray medical cases [40,41]. From an educator's perspective, real patients are logistically difficult to organize and do not provide consistent scenarios to assist or evaluate learning. This makes it difficult to obtain reliable evaluations of individual learners and programs [42–44]. Future research should determine the effectiveness of the ISQ for the assessment and evaluation of real patients in actual clinical settings. The ISQ also should be administered in a variety of clinics to determine if the factor structure reported here is the best solution. Future research also will need to address the predictive validity of the ISQ and its responsiveness to the changes expected with teaching, which is planned as part of the present interventional study when it is completed.

### 6.2. Conclusion

With a strong theoretical and empirical base and strong psychometrics, we recommend the shortened, four factor ISQ as a reliable, valid measure for every-day use by medical educators and researchers. The ISQ can advance the field of assessment of patient-centered communication by identifying, for the first time, four key components of patient satisfaction with the provider patient interaction: open-endedness, empathy, confidence, and general.

### Practice implications

The ISQ provides a means for better understanding poor patient satisfaction results from a physician interaction.

### Conflict of interest

The authors have no actual or potential conflict of interest, including any financial, personal or other relationships, with other people or organizations within three years of beginning the submitted work that could inappropriately influence or be perceived to influence this work.

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**Table 5**  
Correlations among the ISQ Factors and between the CAT.

	1	2	3	4	5
1. Opportunity to disclose concerns	1.00	.87	.75	.88	.85
2. Physician's empathy	.68*	1.00	.75	.84	.90
3. Confidence in physician's abilities	.66*	.62*	1.00	.98	.76
4. General satisfaction	.75*	.68*	.88*	1.00	.82
5. The CAT	.76*	.76*	.71*	.75*	1.00

Note: Correlations corrected for attenuation due to measurement error in upper quadrant.

ISQ = interview satisfaction questionnaire.

CAT = communication assessment test.

\* Correlation significant at the  $p < .001$  level.

Learning and Assessment Centered (East Lansing, MI), including its constituent members from the Colleges of Human Medicine, Nursing, Osteopathic Medicine, and Veterinary Medicine.

**Appendix A. Interview satisfaction questionnaire (ISQ)—initial 25-item version (originally named satisfaction with the physician–patient relationship)**

Please indicate how much you agree or disagree with each statement regarding your visit with this physician	Strongly disagree	Somewhat disagree	Undecided	Somewhat agree	Strongly agree
1. I told the physician everything that was on my mind	1	2	3	4	5
2. I was able to tell the physician what was bothering me	1	2	3	4	5
3. I felt understood by the physician	1	2	3	4	5
4. The physician made me feel rushed	1	2	3	4	5
5. I had confidence in the physician's abilities	1	2	3	4	5
6. The physician made me feel comfortable enough to tell everything that was bothering me	1	2	3	4	5
7. The physician made it easy to understand what, if anything, was wrong with me	1	2	3	4	5
8. The physician gave me undivided attention	1	2	3	4	5
9. I got to ask the physician all the questions I wanted	1	2	3	4	5
10. The physician spent the right amount of time with me	1	2	3	4	5
11. I was pleased with my visit with the physician	1	2	3	4	5
12. The physician always seemed to know what he/she was doing	1	2	3	4	5
13. I have a good deal of confidence in the physician	1	2	3	4	5
14. The physician really cared	1	2	3	4	5

(Continued)

Please indicate how much you agree or disagree with each statement regarding your visit with this physician	Strongly disagree	Somewhat disagree	Undecided	Somewhat agree	Strongly agree
about me as a person					
15. The physician acted like I didn't have any feelings	1	2	3	4	5
16. The physician treated me with a great deal of respect	1	2	3	4	5
17. The physician "talked down" to me	1	2	3	4	5
18. The physician was kind and considerate of my feelings	1	2	3	4	5
19. The physician tried to make me feel relaxed	1	2	3	4	5
20. The physician relieved my worries about medical conditions	1	2	3	4	5
21. The physician made it easy for me to ask questions	1	2	3	4	5
22. The physician listened to me closely	1	2	3	4	5
23. I trust the physician	1	2	3	4	5
24. The physician did not spend enough time with me	1	2	3	4	5
25. Overall, I am satisfied with the physician	1	2	3	4	5

**Appendix B. Interview satisfaction questionnaire (ISQ)—short, 12-item version**

Please indicate how much you agree or disagree with each statement regarding your visit with this doctor	Strongly disagree	Somewhat disagree	Undecided	Somewhat agree	Strongly agree
1. I was able to tell the doctor what was bothering me	1	2	3	4	5
2. I had confidence in the doctor's abilities	1	2	3	4	5
3. The doctor made it easy to understand	1	2	3	4	5

(Continued)

Please indicate how much you agree or disagree with each statement regarding your visit with this doctor	Strongly disagree	Somewhat disagree	Undecided	Somewhat agree	Strongly agree
4. The doctor gave me undivided attention	1	2	3	4	5
5. The doctor spent the right amount of time with me	1	2	3	4	5
6. I was pleased with my visit with the doctor	1	2	3	4	5
7. The doctor always seemed to know what he/she was doing	1	2	3	4	5
8. I have a good deal of confidence in the doctor	1	2	3	4	5
9. The doctor treated me with a great deal of respect	1	2	3	4	5
10. The doctor tried to make me feel relaxed	1	2	3	4	5
11. The doctor made it easy for me to ask questions	1	2	3	4	5
12. Overall, I am satisfied with the doctor	1	2	3	4	5

### Appendix C. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.pec.2016.01.002>.

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