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Abstract

Patient satisfaction with their doctor is an essential component of healthcare that impacts both patient health outcomes and fiscal success of healthcare organizations. This study identifies doctor behaviors that act as drivers of patient satisfaction when doctor expertise is set aside and determines the importance of these behaviors between different age groups. Survey data were gathered from two samples, one comprising younger adults at a mid-size Midwestern university (n=100) and one comprising older adults from a national market research survey panel provider (n=187). Subjects were asked to rate their satisfaction with their doctors from 0-100 and rate the importance of 21 doctor behaviors from 1-5. Results support evaluating patients' overall views with their doctors separately from their views of their doctors when ignoring doctors' expertise, as three unique doctor behaviors were identified when ignoring the doctors' expertise (i.e., not rushed, long-term relationship, and being fun). Results also support the existence of age-related patient satisfaction drivers. Unique satisfaction drivers among younger patients include not rushing the interaction, being fun, conveying a caring demeanor, and protecting patient privacy. Conversely, unique satisfaction drivers among older patients include listening, conveying friendliness, building long-term relationships, and seeking patient input. Findings indicate that expertise-independent doctor behaviors are quantifiable and demonstrate clear patterns of importance in terms of patient satisfaction to different age groups. They also align with prior research findings that behaviors traditionally classified as "soft skills" like smiling and active listening are important attributes when considering patient satisfaction.

Keywords

Patient experience, patient satisfaction, patient-centered care, perceptions of doctors, doctor behaviors.

Introduction

Many factors contribute to whether patients' experiences with their doctors lead them to view their doctors positively or negatively. Doctors and healthcare organizations cannot influence all of these factors, and healthcare organizations may even prioritize different factors that drive efficiencies which are at odds with creating patient experiences that lead to positive views of their doctors. We acknowledge the multidimensional nature of patient satisfaction¹ and accept that satisfaction within the healthcare context derives from factors that doctors can and cannot affect. That said, even in the presence of uncontrollable factors, doctors may find it useful to identify factors they can affect and that improve patient satisfaction. This research builds on existing work that focuses on the patient experience with their doctor, and specifically work that identifies doctor behaviors that impact patient satisfaction with their doctor.

While some disagreement exists as to what constitutes patient satisfaction, continued advancement of this research is important from both a healthcare provider financial perspective and a patient health outcome

perspective. For instance, Snyder suggests that satisfied patients are more loyal, which helps to increase revenues and margins.² Additionally, past research indicates a strong relationship between patient satisfaction and patient views of the quality of doctor-patient communications,³ doctor trustworthiness,⁴ and being treated with dignity.^{5,6} And most importantly, higher levels of patient satisfaction are more likely to result in follow through with treatment recommendations, resulting in improved health outcomes.⁷ Thus, understanding the subtleties that turn a patient's healthcare visit into a satisfactory experience versus an unsatisfactory one is messy but nonetheless worthy of study.

Given the many benefits of increasing patient satisfaction (e.g., long-term financial performance of healthcare providers, favorable patient health outcomes), the need to gain additional insights that provide prescriptive recommendations to doctors is justified. To start, we state three objectives for our work. We then briefly elaborate on doctor behaviors that have been linked to patient satisfaction in prior studies. We then focus on our empirical investigation and end with a discussion of the implications and limitations of our work.

The three objectives are:

1. First, we suggest why it may help to separate patients' views of doctor expertise from overall views of the doctor, so that we can examine 'expertise-ignored' views of doctors.
2. Second, we explore the impact of patient age on the connection between doctor behaviors and patient satisfaction. If younger patients are satisfied by some doctor behaviors, but older patients are satisfied by other behaviors, then recommended behaviors should vary across patient ages.
3. Third, based on both objectives above, we empirically examine how expertise-ignored views of doctors are related to behaviors that affect satisfaction, comparing younger adults to older adults. Our empirical examination includes identifying a core subset of behaviors that explain most variation in patient satisfaction. Understanding these core behaviors may help doctors prioritize their efforts to make patients more satisfied, so they become more efficient and effective in driving satisfaction.

Doctor Behaviors

We first identified doctor behaviors linked to patient satisfaction through a review of existing academic literature.⁸⁻²¹ This literature presents the rationales and underlying theories that link doctor behaviors to patient satisfaction. We recognize that articles vary in terms of focusing on patient satisfaction with a doctor, patient satisfaction with a visit to a doctor, and patient satisfaction with doctor-patient interactions. The distinction between

these satisfaction targets is interesting but the theoretical rationales and measures across articles are similar to each other. Thus, in an effort to be inclusive in identifying factors, we drew from all of these focuses of satisfaction. In addition to academic articles, we examined practice-oriented articles that provide experience-driven intuitions about doctor behaviors that drive patient satisfaction.²²⁻²⁹ Some of these past works include factors reflected in HCAHPS and Press Ganey surveys.^{11,13,15,16}

Table 1 lists the behavioral factors we identified across articles. Many of these factors were identified in multiple articles, with descriptions of factors varying slightly across articles. Thus, we have not attempted to attribute each factor to particular articles. The table provides descriptions that reflect how these factors were generally presented across articles. While our goal is to focus on doctor behaviors, we acknowledge this research measures patient perceptions of doctor behaviors. To illustrate the distinction, whether a doctor *asks questions* is a doctor's behavior, but regardless of whether a doctor asks questions, the factor reflects whether patients believe or recall that a doctor asked questions. This comingling of perception and reality, which can result in selective distortion, is a well-known and much studied topic within the social sciences,^{30,31} as well as within the healthcare context.³² We retained items discussed in the literature as reflecting more than one behavior, provided the item was presented as reflecting a narrow set of specific behaviors. For example, *doctor friendliness* encompasses behaviors that include the initial greeting, eye contact, and projecting a sentiment that the patient is an individual human being, not a number. Conversely, we excluded items discussed in

Table 1. Doctor behaviors identified in the existing literature

Behavior	Description
Accessible	Is accessible across days and/or at different times of the day
Asks questions	Asks patients questions about their health
Bedside manner	Has compassion/empathy for patients' worries or pains
Cares about individual	Seems to genuinely care about patients as individual people
Checks for understanding	Checks to make sure patients understand recommendations or treatments
Clear without jargon	Talks clearly and avoids jargon
Expertise	Exhibits high expertise in his or her area of practice
Explains how and why	Explains healthy behaviors; how and why they work
Explains options	Explains treatment option pros/cons and how they address patients' health needs
Friendly	Is friendly (e.g., warm greeting, good eye contact, not curt or dismissive)
Fun	Is fun (smiles, upbeat, sense of humor, colorful attire under lab-coat, etc.)
Instructions	Gives good instructions about follow-up care
Listens	Is a good listener
Long-term relationship	Is good at working with patients over time
Makes referrals	Can make good referrals to specialists when patients' health needs are beyond his or her area
Not rushed	Is not rushed during patients' visit
Protects privacy	Protects patients' privacy and personal information
Reviews history	Reviews patients' medical history plus updates they provide
Seeks input	Seeks patients' input and includes them in decisions about treatments
Sits near patient	Sits near patients instead of standing when they visit his or her office
Works as team	Works well as a team with other health care providers that see patients

the literature as being higher-order factors that reflect a broad array of doctor behaviors. For example, we excluded *trust in the doctor*. While trust affects patient satisfaction, trust may reflect patients' views of many diverse doctor behaviors.

Of the 21 behaviors identified, all but one was culled from our study of existing research. *Fun* is the only behavior included in the table that was not identified through our healthcare literature search. While fun may seem incongruous with the healthcare setting, the seriousness of the patient setting may actually be a reason for expecting fun to be important. Specifically, research in both academic and practice domains has found that fun sometimes affects satisfaction in challenging environments outside of healthcare. For example, Yohn states that, "Great service providers make it fun to work with them. They recognize that their clients are stressed out enough by everything else they have going on, so they work hard to make interactions with them something their clients look forward to."²⁹ In addition, Karl and Peluchette provide an example from Southwest Airlines to illustrate how travelers' worries are counteracted by infusing fun into the service experience.²¹ Finally, fun has been linked to feelings of "release from a burden" that may be desired in the context of a patient visiting a physician.³³

Physician Expertise

A patient's primary reason to seek healthcare, and to rely on specific healthcare providers is likely to be their perception that healthcare providers have strong expertise. Nevertheless, as seen from the list of behaviors in Table 1, the doctor's ability to provide a 'human touch' is very important to patients. We suggest that the contrast of expertise versus other behaviors may be important to consider. Reflecting on the Hierarchy of Effects model, we expect that a doctor's expertise aligns with a cognitive reaction to the doctor's service, whereas other behaviors largely align with an affective reaction to the doctor's service.³⁴ Put simply, we hypothesize that cognitive and affective reactions to doctor behaviors both impact patient satisfaction. As an example of viewing expertise and other behaviors as both being important, Elrod and Fortenberry state that healthcare providers must develop their skills [cognitive lever] and appeal emotionally to their target audiences [affective lever].³⁵

Notably, satisfaction is sometimes best assessed by considering cognitive and affective parts separately. For example, employee satisfaction with jobs and customer satisfaction with mobile communications have been assessed so that satisfaction is partitioned into cognitive and affective components.^{36, 37} In terms of healthcare, research focusing on links between doctor behaviors and patient affective satisfaction may be suppressed when using a global satisfaction measure, and thus should sometimes be assessed by itself.

A related issue is that service provider expertise can have halo effects. For example, a study of financial services found that customer views of service provider expertise can have halo effects that make it challenging to understand how consumers form perceptions of affective dimensions of service provider trust.³⁸ Given the points above, it may help to examine patient satisfaction in two ways: assessing patient views of doctors while including expertise and assessing patient views of doctors while excluding expertise.

Age

Another issue to consider is patient age. We limit the scope of our inquiry to adults because doctor-patient dynamics with children involves parents or other caregivers, which introduce regulatory and multi-person complexities that warrant a separate study. Focusing on adults, younger adults often differ from older adults in terms of their health care situations and their health concerns. Indeed, certain illnesses are more prevalent among younger versus older age groups, and age groups have been used to categorize treatment approaches.³⁹ Another study on dental care also found motivation differences when comparing younger to older patients, with older patients placing higher value on social benefits.⁴⁰ Age-related differences in satisfaction metrics are also noted in areas beyond healthcare. For example, prior research in retail settings has found that service quality elements affect satisfaction more highly among younger (versus older) consumers, perhaps partly because younger adults are less able to regulate their emotional responses to service deficiencies,^{41, 42} and service efficiency tends to be valued more by older (versus younger) consumers.⁴³ Another age difference is that, across multiple product categories, satisfaction often rises among consumers age 55 and older, because older people were raised during times when services were less available, and thus their benchmark for good service is lower than the benchmark possessed by younger people.⁴⁴ Given the existence of these age-related differences, we suggest that it makes sense to consider the potential for younger patients to differ from older patients with respect to how they respond to various doctor behaviors.

Empirical Investigation

Based on the ideas above related to physician expertise, we consider separating patients' overall views of their doctors from their views of their doctors regardless of doctors' expertise. If expertise-ignored satisfaction with doctors is unique from overall satisfaction, then doctors can focus on better understanding that domain of patient satisfaction and increase their ability to improve patient satisfaction. This approach reflects the view that patients lack medical experience and thus may misjudge doctor expertise.⁴⁵ Thus, parsing expertise from the baseline model seems

reasonable, if for no other reason to eliminate another level of uncertainty.

We also consider age. Specifically, do younger and older adults differ from each other in terms of which doctor behaviors impact their views of doctor, when doctor expertise is ignored? For instance, suppose some doctor behaviors impact younger adult satisfaction, yet other behaviors impact older adult satisfaction. In these cases, doctors can be more prepared to engage with all patients (younger and older), based on having more knowledge about how patients across age ranges become satisfied.

Methods

Samples

We gathered data from two samples. Our first sample comprised younger adults who were enrolled in an introductory business course at a mid-size Midwestern university. Subject ages range from 19-22 years. Usable data were collected from 100 of these younger adult subjects. Our second sample comprised older adults who participate as panelists for a national panel-provider that has fielded market research surveys for over 10 years in over 20 countries. Usable data were collected from 187 of these older adult subjects. Approximately 77% of these older adults were 65-74 years old, 17% were 75-84 years old, and 6% were 85 years old or older. For both younger and older samples, data were not used if surveys were completed in an unusual amount of time (i.e., under five minutes or over 20 minutes), and data were not used if open-ended responses were nonsensical. A small portion of data were discarded based on these validity checks.

Primary Measures

Surveys were used and subjects were asked to think of a doctor they viewed positively, and another doctor they viewed negatively (or at least less positively). Subjects were advised to consider general practitioners and specialists. For the doctor viewed positively, and for the doctor viewed negatively (or at least less positively), subjects were asked to rate "How good is this doctor?" using a scale of zero (extremely bad) to one hundred (extremely good). Subjects were then instructed to momentarily ignore the doctor's medical expertise and again rate the doctor, using the same zero to one hundred scale. This funnel approach enables a comparison of overall views to views ignoring expertise, and thus a comparison of whether satisfaction drivers are identical when considering overall views to views that ignore expertise. For each doctor, subjects also rated the doctor behaviors listed in Table 1, and subjects received the descriptions provided in Table 1. Subjects rated all of these doctor behaviors using a scale of one (strongly disagree) to five (strongly agree). Subjects were then asked to provide qualitative comments, identifying at least one thing doctors do that make a patient experience more positive, and one thing doctors do

that make a patient experience more negative. The practice of including a qualitative component in health research has been found to be useful in prior studies, including studies aimed at understanding healthcare needs of older adults.^{46,47}

Procedures

Institutional Review Board guidelines were followed and approval was secured to ensure that no subject medical information was jeopardized and that subjects were fully aware of the purpose of their voluntary participation in the study. An initial draft of the survey was pilot tested and the survey was then modified (data from pilot test subjects were discarded). New data were then collected during 2022, after COVID-19 limitations had largely subsided. The survey was taken online by all subjects.

Results: First Research Objective

Ultimately, results support evaluating patients' overall views with their doctors separately from their views of their doctors when ignoring doctors' expertise. This conclusion is made based on taking three analysis steps. For step 1 we compare average patient ratings of doctors when including expertise, to average patient ratings when ignoring expertise. For step 2 we examine subjects' open-ended comments. In step 3 we compare two statistical models to see if the correlations between doctor behaviors and patient views of doctors differ when patient views include expertise (model 1) versus when patient views ignore doctor expertise (model 2).

For our first step noted above, Table 2 shows average patient ratings of doctors, which reflect a scale of zero (extremely bad) to one hundred (extremely good). The importance of examining averages is to see whether clear differences exist between expertise-including ratings and expertise-ignored ratings. Averages are very similar to each other (72.25 versus 70.60), casting doubt on whether it is useful to separate patient views of doctors when including versus ignoring doctor expertise. For reporting completeness, Table 2 also shows the average scores for subject ratings of doctor behaviors. As a cautionary note, keep in mind these averages reflect 574 observations, based on 100 younger adult observations of doctors they view positively, 100 younger adult observations of doctors they view negatively (or less positively), 187 older adult observations of doctors they view positively, and 187 older adult observations of doctors they view negatively (or less positively). Thus, assuming most doctors in real life are viewed positively, these averages should be lower than normal because they are based on an equal number of doctors viewed positively and viewed negatively (or less positively). (Note: for audiences that wish to use these results as a benchmark for positively viewed doctors only, Table 5 separates ratings more granularly.)

Table 2. Average ratings of doctors overall and doctor behaviors, across all subjects

Overall rating of doctor, scale is 0-100	
Including medical expertise, scale is 0 (extremely bad) to 100 (extremely good)	72.25
Ignoring medical expertise, scale is 0 (extremely bad) to 100 (extremely good)	70.60
Ratings of doctor behaviors, scale is 1 (strongly disagree) to 5 (strongly agree)	
Accessible (Is accessible across days and/or at different times of day)	3.33
Asks questions (Asks me questions about my health)	3.82
Bedside manner (Has compassion/empathy about my worries or pains, good bedside manner)	3.64
Caring (Seems to genuinely care about me as a person)	3.65
Checks I understand (Checks to make sure I understand recommendations or treatments)	3.72
Clear no jargon (Talks clearly and avoids jargon)	3.95
Expertise (Exhibits high expertise in his or her area of practice)	4.11
Explains how why (Explains healthy behaviors; how and why they work)	3.68
Explains options (Explains treatment option pros/cons and how they address my health needs)	3.78
Friendly (e.g., warm greeting, good eye contact, not curt or dismissive)	3.80
Fun (smiles, upbeat, good sense of humor, colorful attire under lab-coat, etc.)	3.45
Instructions (Gives good instructions about follow-up care)	3.80
Listens (Is a good listener)	3.67
Long-term (Is good at working with patients over time; long-term doctor-patient relationships)	3.76
Makes referrals (makes good referrals to specialists when my health needs are beyond his or her area)	3.80
Not rushed (Is not rushed during my visit)	3.53
Protects privacy (Protects my privacy and personal information)	4.20
Reviews history (Reviews my medical history plus updates I provide)	3.97
Seeks my input (Seeks my input and includes me in decisions about treatments)	3.59
Sits near me (Sits near me instead of standing when I visit his or her office)	3.64
Team (Works well as a team with other health care providers that see patients)	3.71

For step 2 in evaluating whether it is useful to examine patient views of doctors when ignoring doctor expertise, we considered the subjects’ open-ended comments. These comments support using a separate view of doctors, based on ignoring doctors’ expertise. As seen in Table 3, some patients clearly think of expertise as being important but being very different from other considerations.

Step 3 in our assessment further supports the validity of considering patient views of doctors when ignoring doctor expertise. As noted above, in this step we compared two

models to see if doctor behaviors that best align with overall satisfaction (model 1) are the same behaviors that best align with overall satisfaction when ignoring doctor expertise (model 2). Results are below in Table 4.

The left side of Table 4 shows doctor behaviors that are collectively most useful in predicting patient views of doctors overall (i.e., including doctor expertise). Results are based on conducting a stepwise backwards regression, using patients’ overall views of doctors as the dependent variable, and using all 21 doctor behaviors as independent

Table 3. Sample comments that illustrate that patients’ views of doctors are often shaped by factors other than expertise

“No one is perfect! Sometimes the doctor with the most expertise is the best on the job even when cranky!”
“My husband was eventually diagnosed with ALS. I was there for all appointments. The Dr. did not address any of my questions. He may have an M.D. degree, but he was not a physician.”
“The doctor didn't get to know me personally. He had NO bedside manner, but I went to him because of his skill with knee surgery.”
“Everyone wants to feel like a person of value. Even if a doctor has great expertise, a patient can feel anxious in their care if they don't connect with their patients.”
“Listen to your patient. I know you are busy but take some time and empathize with them. Sometimes you are the only outside person they see. We already know that you are a good professional - be a good human too.”
“I love that my doctor knows my name and remembers my children and grandchildren. He takes his time and listens to what I have to say. He asks about my current meds and if I think they are doing enough. He doesn't overbook. Most of the time, I don't even sign in. I show up and get taken right in. If I get sick and can't get to the office, they have stayed open late and waited for me.”
“Listening is the most important thing there is. Handwashing too.”
“Sick and tired of them looking at my white hair, calling me ‘sweetie’ and saying, ‘Well you know you are getting older dear.’ Sick of condescending attitudes.”
“My father was a physician. Personality is everything. Most doctors today seem more interested in checking boxes than checking my health.”

Table 4. Regression results using data from all subjects: younger adults and older adults. Left table reveals doctor behaviors significantly related to overall patient views of doctors while including expertise (model 1). Right table reveals doctor behaviors significantly related to overall view of doctors while ignoring expertise (model 2).

Dependent variable: overall view with expertise: R2 = 0.663		
Behavior	Unstandardized coefficient	p-value (1-tailed)
Constant	-9.775	0.001
Reviews history	4.599	0.000
Instructions	3.492	0.000
Friendly	2.602	0.003
Listens	2.416	0.007
Explains options	3.050	0.001
Caring	2.028	0.027
Expertise	1.811	0.024
Referrals	1.417	0.050

Dependent variable: overall view ignoring expertise: R2 = 0.675		
Behavior	Unstandardized coefficient	p-value (1-tailed)
(Constant)	-10.365	0.000
Reviews history	4.642	0.000
Instructions	2.891	0.003
Friendly	4.733	0.000
Listens	2.429	0.010
Not rushed	2.753	0.001
Long-term	1.922	0.011
Fun	2.229	0.034

variables. The backwards regression technique is especially suited to reducing a large set of predictors. The technique involves assessing a full model with all predictors, examining the significance of all coefficients, and if one or more coefficients are not significant, removing the non-significant predictor that contributes least to the overall model, and conducting the model again. This process is repeated to sequentially remove the least predictive factor until all variables in the model are significant. We used SPSS version 28 for this analysis. We used one tailed p-values, given the doctor behaviors are expected to contribute toward positive views of doctors (i.e., two tailed p-values would be appropriate if our views were non-directional, meaning increases in doctor behaviors were expected to change patient views of doctors via an increase or decrease in these views).

The right side of Table 4 shows results based on using the same analysis except using the dependent variable that is patient views of doctors while ignoring doctor expertise. As seen via the orange fill-color, four of the 21 doctor behaviors are significant predictors of both domains of patient views of doctors (i.e., including doctor expertise versus ignoring doctor expertise). However, as seen via the green fill-color, four doctor behaviors are unique predictors of overall patient views of their doctors including expertise, and three different doctor behaviors are unique predictors of patient views of their doctors when ignoring the doctors' expertise.

In concert, results support our first objective. We conclude that, at least in some settings, it may be useful to consider patients' overall views of doctors while ignoring doctor expertise. The similar means reported in the top rows of Table 2 (72.25 and 70.60) are interesting and run counter

to this conclusion, but these means tell only part of the story. Results collectively indicate that even if patients' average overall views are about the same for the two domains (views including doctor expertise versus views ignoring doctor expertise), efforts to improve patient satisfaction to some extent hinge on different doctor behaviors. When looking beyond doctor expertise, doctors and hospital administrators seeking to improve patient satisfaction with their doctors should pay attention to whether doctors behave in a non-rushed fashion, whether doctors demonstrate a desire to work with patients over time (long-term), and whether doctors engage in fun behaviors such as smiling, demonstrating a good sense of humor, and wearing colorful attire under their lab-coat. These factors are important satisfaction drivers that could be undetected when satisfaction is measured with a view that includes doctor expertise.

Results: Second Research Objective

Results also support the conclusion that younger and older adults differ from each other in terms of doctor behaviors that impact their views of doctors when ignoring doctor expertise. First, we show averages for younger adults and for older adults in Table 5.

Compared to results shown in Table 2, results shown in Table 5 may be more useful for doctors and hospital administrators seeking to use suitable benchmarks for evaluating their own patient feedback. Interestingly, the only average below 4.0 across all groupings is the doctor's accessibility (see row with all cells having green fill-color). From Table 5, when looking at doctors viewed negatively (or less positively), the highest averages are for protecting privacy (younger adults: 4.11 and older adults: 3.76), and

Table 5. Average ratings among younger adults (YA) and older adults (OA), for doctors viewed positively (+) and for doctors viewed negatively/less-positively (-)

	YA +	YA -	OA +	OA -
Overall rating of doctor, scale is 0-100				
Including medical expertise, scale is 0 (extremely bad) to 100 (extremely good)	87.41	54.71	89.60	56.18
Ignoring medical expertise, scale is 0 (extremely bad) to 100 (extremely good)	85.05	50.78	89.95	54.13
Ratings of doctor behaviors, scale is 1 (strongly disagree) to 5 (strongly agree)				
Accessible (Is accessible across days and/or at different times of day)	3.81	2.81	3.82	2.85
Asks questions (Asks me questions about my health)	4.66	3.44	4.39	3.01
Bedside manner (Has compassion/empathy about my worries or pains, good bedside manner)	4.72	2.96	4.41	2.67
Caring (Seems to genuinely care about me as a person)	4.65	2.96	4.39	2.74
Checks I understand (Checks to make sure I understand recommendations or treatments)	4.58	3.23	4.27	2.97
Clear no jargon (Talks clearly and avoids jargon)	4.56	3.46	4.54	3.30
Expertise (Exhibits high expertise in his or her area of practice)	4.78	3.91	4.35	3.61
Explains how why (Explains healthy behaviors; how and why they work)	4.57	3.35	4.14	2.91
Explains options (Explains treatment option pros/cons and how they address my health needs)	4.65	3.25	4.36	3.00
Friendly (e.g., warm greeting, good eye contact, not curt or dismissive)	4.79	3.07	4.59	2.87
Fun (smiles, upbeat, good sense of humor, colorful attire under lab-coat, etc.)	4.51	2.87	4.13	2.50
Instructions (Gives good instructions about follow-up care)	4.51	3.26	4.42	3.09
Listens (Is a good listener)	4.69	3.13	4.45	2.65
Long-term (Is good at working with patients over time; long-term doctor-patient relationships)	4.66	3.12	4.35	3.03
Make referrals (makes good referrals to specialists when my health needs are beyond his or her area)	4.47	3.35	4.25	3.23
Not rushed (Is not rushed during my visit)	4.43	2.70	4.31	2.73
Protects privacy (Protects my privacy and personal information)	4.73	4.11	4.40	3.76
Reviews history (Reviews my medical history plus updates I provide)	4.69	3.57	4.45	3.30
Seeks my input (Seeks my input and includes me in decisions about treatments)	4.50	3.03	4.21	2.77
Sits near me (Sits near me instead of standing when I visit his or her office)	4.18	3.16	4.27	2.99
Team (Works well as a team with other health care providers that see patients)	4.42	3.33	4.14	3.10

then for doctor expertise (younger adults: 3.91 and older adults: 3.61). These averages indicate that younger adults and older adults are similar in some ways. The relatively high averages for doctor expertise is also interesting because it reaffirms that a doctor might be viewed as having high expertise, and yet still get viewed negatively.

Table 6 then shows two more regression models. We again used the backwards regression process described above. However, continuing from our prior results, the dependent variable for Table 6 is the patient views of doctors when ignoring doctor expertise, and comparing younger adults (left) to older adults (right). As before, orange fill-color indicates doctor behaviors that are significant predictors in both models, and green fill-color indicates doctor behaviors that are significant predictors in only one model. The presence of the different predictors supports the main conclusion that age differences matter. For each model, doctor behaviors are listed in descending order of regression coefficients.

For both younger and older adults, results indicate that doctors should make sure to review patients’ medical history with them and should give good instructions about

follow-up care. For younger adults specifically, doctors should consider engaging in behaviors that demonstrate fun (as appropriate; we suspect patients are less attracted to fun behaviors when they have major medical concerns), not being rushed, caring, and protecting privacy. While visiting with older adults, doctors should consider engaging in behaviors that focus more on listening, being friendly (which may be an older person’s version of fun), stressing long-term relations, and seeking patient input. These age differences are intuitive in some ways, for example older adults (versus younger adults) are more likely to see doctors frequently, and thus may have more interest in a long-term relationship and in wanting to have a dialog with their doctors (which connects to listening and seeking patient input).

Discussion

Conclusions and recommendations

Prior studies have linked patient satisfaction with improved health outcomes, increased patient loyalty, and stronger financial results for healthcare organizations.^{2,7} One set of factors that drive patient satisfaction is doctor characteristics. Importantly, while patients value doctors’

Table 6. Regression results comparing younger adults (left) to older adults (right)

Younger adult sample only. Dependent variable: overall view ignoring expertise: R2 = 0.621.			Older adult sample only. Dependent variable: overall view ignoring expertise: R2 = 0.749.		
Behavior	Unstandardized coefficient	p-value (1-tailed)	Behavior	Unstandardized coefficient	p-value (1-tailed)
Constant	-14.985	0.010	Constant	-11.534	0.000
Fun	5.803	0.000	Listens	5.496	0.000
Not rushed	3.533	0.003	Friendly	5.339	0.000
Reviews history	3.369	0.027	Reviews history	4.738	0.000
Instructions	3.186	0.020	Long-term	2.747	0.014
Caring	2.842	0.046	Seeks my input	2.204	0.024
Protects privacy	2.667	0.046	Instructions	2.107	0.041

medical expertise, they also value soft skill behaviors such as being accessible, listening, treating patients as individuals, and being friendly.^{2,9,11,23,25} As doctors and healthcare organizations work to improve the patient experience, our study reinforces the importance of these doctor behaviors. Our study also moves this research area forward by providing additional ideas that suggest when and why some of these doctor behaviors add value. Given the prior research in this area plus our empirical findings, we offer three main conclusions and corresponding recommendations. These ideas may be useful for training newly minted doctors on how to interact with patients. This type of training has already been found to be effective,⁴⁸ perhaps because “medical school curricula often emphasize the teaching of medical facts and procedures...”⁴⁹

First, we conclude that while a doctor’s expertise is amazingly important, this expertise can potentially become a crutch or hindrance for doctors and administrators who seek to improve patient views of doctors. Specifically, when patients ignore their doctors’ expertise, the importance of several doctor behaviors become more apparent. Therefore, we recommend allocating at least some attention to measuring patient views of doctors when ignoring doctor expertise. Furthermore, we recommend encouraging doctors to engage in behaviors listed in Table 6, paying special attention to reviewing history and giving good instructions about follow-up care, which are important to both younger adult patients and older adult patients.

Second, we conclude that fun is an important doctor behavior. The usefulness of fun has been substantiated in settings beyond healthcare, even where such settings may be stressful.^{21,33} On the practical side, we recommend doctors recognize that smiling, being upbeat, demonstrating a sense of humor and even wearing colorful attire under lab-coats will sometimes positively impact

patients’ views of them. We appreciate the need for caution when behaving in a fun manner, and that patients with major health concerns may view fun as being inappropriate. On the theoretical side, we recommend including fun as a service provider factor and differentiating it from friendliness in models that aim to understand patient satisfaction. We also recommend that future research should explore the construct of fun more fully in healthcare settings.

Third, we conclude that patient age is a useful demographic to consider when working to improve patients’ views of their doctors. For example, among younger adults, fun behaviors are perhaps the strongest driver of whether patients view doctors favorably when ignoring doctor expertise (i.e., the 5.803 coefficient in Table 6 is the largest behavior coefficient). However, among older adults, friendliness rather than fun becomes a key driver of patient views. We recommend doctors consider the relative importance of fun versus friendliness, being more upbeat and fun with younger (and healthy) patients, and perhaps ‘mellowing’ this behavior to a friendly stance when working with older adults. We also suggest doctors demonstrate listening, again particularly for older adults, as we found listening to be the strongest driver of patient views among these subjects (i.e., the 5.496 coefficient in Table 6), and as reported via one sample quote in Table 3, “Listen to your patient. I know you are busy but take some time and empathize with them. Sometimes you are the only outside person they see. We already know that you are a good professional - be a good human too.”

Limitations

Our work has several limitations that are important to recognize. First, patient satisfaction with the healthcare system is essential, and doctor behaviors are only one type of factor that affects this broader satisfaction. Other drivers of patient satisfaction include issues such as the

affordability of healthcare,⁵⁰ the likeability of the receptionist and other support staff members, the convenience of the healthcare provider's location,²² whether patients can access their information from a smartphone,²³ appointment reminders,²⁶ and even the quality of bed linen.¹⁰ We view our focus on doctor behaviors as one useful area to explore, while recognizing other areas are also important.

Second, we limited the scope of our research to standard, in-person practices. For example, we did not ask patients to consider online interactions with doctors, which are becoming more common.⁵¹ Also, we did not include doctor behaviors that are less standard, an example being whether a doctor is "willing to use unconventional approaches" such as herbal medicine.⁵⁰

A third limitation of our study is that we used survey measures of the patient experience. While survey measures are commonly employed and have advantages, a wider variety of methods can be useful in evaluating patient experiences.⁵²

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