Surgeon Age, Years in Practice, and Gender are Associated with Patient Satisfaction Scores

Laura Lu, James C. Dziobek, Mitchel B Harris[1], Antonia F Chen
[1]Massachusetts General Hospital

INTRODUCTION:

With the transition to quality-based care, there has been increasing emphasis on patient satisfaction as a quality metric. Prior literature has shown that there are patient factors that are associated with satisfaction scores. However, it is unclear what and how physician-related characteristics are associated with patient satisfaction.

METHODS:

Outpatient satisfaction scores for 7,856 patients who rated 62 orthopaedic surgeons in 2021 within a single hospital system were retrospectively studied. Sixty-two orthopaedic surgeons completed a survey reporting sociodemographic information, academic productivity, industry relationships, and leadership positions. Three questions were used to assess patient satisfaction with the surgeon: 1) did the provider listen carefully to you, 2) did the provider explain things in a way you could understand, and 3) how likely would you be to recommend this provider to your family and friends. These questions were assessed individually and as a total score out of 16 points (3 points for Questions 1 and 2, and 10 points for Question 3 as dictated by the answer choices).

Preliminary bivariate correlation analysis was performed with Pearson correlation for interval (continuous) variables and chi-square for nominal (categorical) variables to explore the associations between surgeon-related factors and patient satisfaction scores. For chi-square analyses, each patient satisfaction score was recoded into a dichotomous variable of above the mean score across all surgeons and below/equal to the mean score.

RESULTS:

There were 57 (91.9%) male orthopaedic surgeons, and 5 female orthopaedic surgeons (8.1%). Additional sociodemographic information, academic productivity, industry relationships, and leadership positions are summarized in Table 1. Surgeon age and years in practice were negatively correlated with the total patient satisfaction score ($p<0.039$, $p<0.034$, respectively) (Table 2). All 5 female surgeons had above-average patient satisfaction scores, and female gender had a positive association with above-average scores for the likelihood to recommend the provider to family and friends and the composite scale of Questions 1-3 ($p<0.045$ for both) (Table 2).

DISCUSSION AND CONCLUSION:

In our preliminary analysis, we found that older surgeon age and more years in practice were associated with lower patient satisfaction scores while female gender was associated with higher patient satisfaction scores. Surgeon age and years in practice are likely correlated themselves, but it is unclear why these characteristics are associated with lower satisfaction. Perhaps with more experience, these surgeons may spend less time with patients and thus patients perceive that communication and listening is less satisfactory. In our cohort, all 5 female surgeons had above-average patient satisfaction scores. Though this is a small sample size, these surgeons were significantly more likely to be recommended to family and friends and to have a higher overall satisfaction score. Further subgroup analysis will be needed to see if there are any characteristics that may contribute to these surgeons having higher patient satisfaction. In the future, we will conduct multiple regressions to control for possibly confounding variables and also assess patient factors and their relationship with the surgeon to see if other factors such as race/gender congruence and socioeconomic status may also contribute to patient satisfaction.

Table 1. Demographic, practice, academics, industry, leadership data

Demographic Information	
Sex (%)	
Male	57 (91.9)
Female	5 (8.1)
Race/ethnicity (%)	
White	41 (66.1)
Asian	15 (24.2)
Black/ African American	1 (1.6)
Hispanic/ Latinx	1 (1.6)
Other	4 (6.5)
Mean age in years (SD)	49.3 (9.9)
Marital status (%)	
Single	7 (11.3)
Married	53 (85.5)
Divorced	1 (1.6)
Practice Parameters	
Median years in practice (range)	14 (1-38)
Subspecialty (%)	
Adult Reconstruction/Arthroplasty	11 (17.7)
Foot and Ankle	11 (17.7)
Hand and Upper Extremity	7 (11.3)
Shoulder and Elbow	9 (14.5)
Sports Medicine	14 (22.6)
Pediatrics	4 (6.5)
Oncology	5 (8.1)
Spine	13 (21.0)
Trauma	6 (9.7)
Fellowship Location (%)[1]	
Northeast	35 (56.5)
South	6 (9.7)
Midwest	10 (16.1)
West	3 (4.8)
Other	2 (3.2)
Residency Location (%)	
Northeast	45 (72.6)
South	0 (0)
Midwest	7 (11.3)
West	3 (4.8)
Other	7 (11.3)
Medical School Location (%)	
Northeast	33 (53.2)
South	6 (9.7)
Midwest	8 (12.9)
West	2 (3.2)
Other	12 (19.4)
Treat pediatric patients (%)	41 (66.1)
Sport team coverage (%)	14 (22.6)
Advertising (%)	
Minimally invasive surgery	21 (33.9)
Specific surgical approach	12 (19.4)
Robotics	5 (8.1)
Custom implants	4 (6.5)
Other	3 (4.8)
Clinic Help (%)	
Medical Assistant	41 (66.1)
Advanced practice provider	40 (64.5)
Fellow	16 (25.8)
Resident	20 (32.3)
In-person scribe	2 (3.2)
Electronic scribe	1 (1.6)
Prior employment (%)	
Academic institution	25 (40.3)
Private practice	7 (11.3)
None	25 (40.3)
Daily distance traveled (%)	
0-10 miles	25 (40.3)
11-20 miles	26 (41.9)
21-30 miles	9 (14.5)
>30 miles	1 (1.6)
Industry involvement (%)	
Royalties	15 (24.2)
Stocks	8 (12.9)
Ownership	2 (3.2)
Fees	24 (38.7)
Other	5 (8.06)
Academics and Leadership	
Academic appointment (%)	
Clinical instructor	24 (38.1)
Assistant Professor	16 (25.4)
Associate Professor	14 (22.2)
Full Professor	7 (11.1)
Median PubMed indexed publications (range)	100 (40-260)
Median patents (range)	45 (20-70)
Internal Leadership (%)	
Committee Lead	8 (12.9)
Associate Program Director	2 (3.2)
Program Director	5 (8.1)
Chief of the Division	13 (21.0)
Chair of the Department	3 (4.8)
Society involvement (%)	
Regional	28 (45.1)
National	49 (79.0)
International	21 (33.9)

[1]Northeast (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, Pennsylvania)

South (Delaware, District of Columbia, Florida, Georgia, Maryland, North Caroline, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas)
Midwest (Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota)
West (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon, Washington)

Table 2. Surgeon age, years in practice, and female gender are associated with patient satisfaction

	Pearson Correlation	p-value
Surgeon age		
1. Did the provider listen carefully to you?	-0.175	0.178
2. Did the provider explain things in a way you could understand?	-0.159	0.222
3. How likely would you be to recommend this provider to your family and friends?	-0.138	0.302
4. Total score	-0.272	*0.039
Years in practice		
1. Did the provider listen carefully to you?	-0.227	0.081
2. Did the provider explain things in a way you could understand?	-0.161	0.220
3. How likely would you be to recommend this provider to your family and friends?	-0.150	0.265
4. Total score	-0.282	*0.034
	Chi-Square	**p-value**
Female		
1. Did the provider listen carefully to you?	3.675	0.055
2. Did the provider explain things in a way you could understand?	3.435	0.064
3. How likely would you be to recommend this provider to your family and friends?	4.017	*0.045
4. Total score	4.017	*0.045

*Statistically significant for $p<0.05$