

Comparing Satisfaction Among Providers Treating Both Pediatric and Adult Otolaryngology Patients

Emily Y. Huang, BS¹ , Ryan Park, BS², Erica Park, MPH²,
Matthew A. Firpo, PhD³, and Albert H. Park, MD² 

Abstract

Objective. Although pediatric otolaryngology providers are reported to garner lower patient satisfaction than adults, this difference is not well characterized. This study investigates whether patient satisfaction differences exist in providers who treat both pediatric and adult patients.

Study Design. Retrospective review.

Setting. Tertiary medical center.

Methods. In this cross-sectional study, Press Ganey surveys (PGS) completed by patients or parents on their first-time visit with 5 general otolaryngology providers from July 2014 to March 2022 were analyzed. Surveys were categorized by child (<18 years old) or adult and consisted of 14 items including 6 service domains of access, visit, nursing, provider, personal issues, and assessment. Analysis was performed with Walsh's *t* test and analysis of variance. Multivariable logistic regression, controlling for wait times and provider, evaluated the likelihood of highest satisfaction scores (HI-SCORES) based on age.

Results. A total of 2549 patients (135 pediatric, 2414 adults) completed the PGS on their initial visit. There was no significant difference in the mean overall satisfaction scores between pediatric and adult patients. Further analysis of service domains among pediatric patients found the mean score in the access domain to be higher for the 6- to 11-year-old age group (0-5 years old: 85.5 ± 20.5 [mean \pm SD], 6-11 years old: 94.7 ± 11.5 , 12-17 years old: 87.3 ± 15.4 , $P = .03$). Pediatric patients did not have a significantly higher likelihood (odds ratio = 1.1, 95% confidence interval: 0.8-1.6, $P > .05$) of reporting HI-SCORES compared to adults after covariate adjustment.

Conclusion. There was no significant difference in patient satisfaction scores for providers who treat pediatric and adult patients utilizing the same facility and scheduling team.

Keywords

patient satisfaction, Press Ganey

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There is an increasing emphasis toward patient-centered care within the US health care system. Patient satisfaction has become an important factor of health care quality, often gathered through survey instruments such as the Press Ganey survey (PGS). The Centers for Medicare and Medicaid Services mandated public reporting of patient satisfaction scores to empower patients to make informed decisions on the selection of the appropriate hospital for health care needs and also to guide insurance reimbursement.¹ Besides its influence on provider and institutional reimbursements, a breakdown of patient satisfaction scores can identify areas of improvement within the clinical practice and drive implementation of targeted solutions, which ultimately fosters patient trust toward the health care institution and health care providers.²

There is a wide array of factors that can affect patient satisfaction including provider factors (interpersonal skills, technical care), patient factors (socioeconomic status, overall health, education), and organizational factors (wait time, size of practice).³ Within otolaryngology, studies have found that longer wait times, academic teaching settings, and resident physician involvement were all individually associated with lower patient satisfaction.⁴⁻⁶

Given the nature of pediatric care in otolaryngology, it requires a different approach toward family-centered care and shared decision-making between the provider, child, and parent.⁷ Only 2 prior studies have directly examined differences in patient satisfaction scores between pediatric

¹Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

²Department of Otolaryngology-Head and Neck Surgery, University of Utah School of Medicine, Salt Lake City, Utah, USA

³Department of Surgery, University of Utah School of Medicine, Salt Lake City, Utah, USA

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Corresponding Author:

Albert H. Park, MD, Department of Otolaryngology-Head and Neck Surgery, The University of Utah School of Medicine, 50 North Medical Drive, SOM 3C120, Salt Lake City, UT 84132, USA.
Email: albert.park@hsc.utah.edu

and adult otolaryngology patients.^{8,9} In a national cross-sectional analysis of PGS, Boss and Thompson reported that in comparison to adults, patient satisfaction was lower in the majority of service domains (access, visit, nursing, personal issues, and assessment) for pediatric otolaryngology patients, with satisfaction lowest for younger children. Similarly in a single tertiary institution's analysis of patient surveys from numerous otolaryngology subspecialties by Redding et al, pediatric otolaryngology patients were less likely to report being satisfied with their overall care in comparison to adult patients. While prior studies demonstrate the difference in patient satisfaction scores in the various otolaryngology subspecialties on a broader institutional and national level, no studies have controlled for provider differences that could be contributing to differences in pediatric and adult patient satisfaction scores. This study aims to determine whether differences exist in adult and pediatric patient satisfaction for general otolaryngology providers who care for patients of all ages.

Methods

Survey and Participants

PGS was utilized by the study institution as a measure to assess patient satisfaction in outpatient clinic visits. Adult patients or parents of pediatric patients were contacted via electronic mail after each visit to complete the PGS, which is available for 30 days. The survey consisted of 14 items within 6 service domains (1) access, (2) moving through the visit, (3) nurse or assistant, (4) care provider, (5) personal issues, and (6) overall assessment. Survey questions were evaluated using a 5-point Likert scale (1 = very poor, 5 = very good). Responses were then converted to a numeric score of 0 to 100 and calculated to create a mean total score and mean score per service domain. Of note, mean scores are right skewed with a high ceiling rate of 29.3%.¹⁰

In this retrospective study, all PGS completed by adult patients or parents of pediatric patients from the initial clinic visit with a general otolaryngology provider at a tertiary academic institution from July 2014 to March 2022 were included. A total of 5 general otolaryngology providers were identified who see both pediatric and adult patients in outpatient clinics within the same academic hospital network and utilize the same scheduling team. There is no resident involvement in any of the outpatient clinics. Only PGS completed for those providers were included. Incomplete surveys and survey responses for return or post-operative visits were excluded. Patient surveys were categorized by adult or pediatric (<18 years old) patient age and further subcategorized by pediatric patient age (0-6 years old: young children, 7-12 years old: school-aged children, 13-17 years old: adolescents). Approval for this study was obtained from the Institutional Review Board at the University of Utah (IRB: 00143343).

Statistical Analysis

Comparisons between various patient age groups were performed with Walsh's *t* test, 1-way analysis of variance, and Tukey's post hoc test. Given the rightward skew and high ceiling rate of PGS responses, patient satisfaction in this study was defined as patients giving a perfect or highest survey score (out of 100), as seen in prior patient satisfaction literature using Press Ganey data.^{8,9} Multivariable logistic regression analysis, controlling for provider, wait time for exam room, and wait time to see care provider, was used to evaluate the likelihood of patients reporting the highest scores (HI-SCORES) in each service domain based on patient age. All analyses were performed using STATA, version 17.0 (StataCorp LLC) and statistical significance was set to $P = .05$.

Results

A total of 2549 patients, of which 2414 (94.7%) adults and 135 (5.3%) children, completed the PGS on their initial outpatient visit and were included in the analyses. Pediatric patients had a mean age of 9.1 ± 5.6 years and 50.4% female while adult patients had a mean age of 54.8 ± 16.8 years and 58.6% female. Additional patient demographics are described in **Table 1**.

The mean total score was 92.9 ± 11.4 for adult patients and 91.8 ± 13.6 for pediatric patients, with score distribution shown in **Figure 1**. There were no significant differences in the mean total patient satisfaction scores between adult and pediatric patients (mean difference [95% confidence interval, CI] = 1.02 [-1.32, 3.38], $P = .39$). Further analyses of mean scores for each service domain and item question between adult and pediatric patients were not significant (**Table 2**). After controlling for provider and wait times, pediatric patients were not significantly associated with reporting HI-SCORES (odds ratio = 1.12, 95% CI: 0.76-1.64, $P > .05$).

No significant difference in total patient satisfaction scores was present between pediatric age groups (0-5, 6-11, and 12-17 years old) after controlling for provider and wait times. Analysis of service domains among pediatric age subgroups found the mean score in the access domain to be higher for the 6- to 11-year-old age group (0-5 years old: 85.5 ± 20.5 [mean \pm SD], 6-11 years old: 94.7 ± 11.51 , 12-17 years old: 87.3 ± 15.4 , $P = .03$). Further analysis into the access domain found that 0- to 5-year-old patients (76.1 ± 32.3) reported significantly lower patient satisfaction score than 6- to 11-year old patients (91.4 ± 18.6 , $P = .03$) in terms of ability to get desired appointment. Additionally, 12- to 17-year-old patients (84.0 ± 20.0) reported significantly lower patient satisfaction scores than 6- to 11-year-old patients (95.4 ± 12.8 , $P = .04$) regarding ease of scheduling appointments. **Table 3** shows additional PGS scores for pediatric age groups by service domain and item question.

Table 1. Press Ganey Survey Adult and Pediatric Patient Characteristic

Patient characteristics	Adult patients, n = 2414 (%)	Pediatric patients, n = 135 (%)	P value
Age	54.76 ± 16.75	9.07 ± 5.58	
Gender			.17
Male	1000 (41.4)	67 (49.6)	
Female	1413 (58.5)	68 (50.4)	
Race/ethnicity			<.001
White	2076 (86.0)	105 (77.8)	
Latino/a/x or Hispanic	161 (6.7)	14 (10.4)	
Black or African American	13 (0.5)	2 (1.5)	
Native Hawaiian or Pacific Islander	8 (0.3)	4 (3.0)	
Asian	50 (2.1)	3 (2.2)	
American Indian or Alaskan Native	10 (0.4)	1 (0.7)	
Other/multirace/ unknown	96 (4.0)	6 (4.4)	
Insurance			<.001
Private	1520 (63.0)	115 (85.2)	
Public	829 (34.3)	14 (10.4)	
Other	32 (1.3)	2 (1.5)	
Not recorded/ missing	33 (1.4)	4 (3.0)	
Wait time			
Wait time for exam room, min	8.36 ± 39.50	9.67 ± 13.61	.70
Wait time in exam room to see care provider, min	4.76 ± 7.46	5.86 ± 8.02	.10

Discussion

In this analysis of patient satisfaction between pediatric and adult patients in outpatient otolaryngology clinics, we observed that there were no significant differences in patient satisfaction based on age for providers who treat both pediatric and adult patients in the same facility with the same scheduling team. Surprisingly within the pediatric group, patient satisfaction is significantly lower within the 0- to 5-year-old age group in terms of ability to get desired appointment and significantly lower within the 12- to 17-year-old age group in ease of scheduling appointment, when compared to the 6- to 11-year-old age group. These differences suggest that access is potentially a major driver of patient satisfaction when looking at total patient satisfaction scores.

Pediatric health care differs from adult health care as it is often family focused with the recognition that the

involvement and perspectives of the parent, children, and young adults are critical during shared decision-making.⁷ While a prior study by Boss and Thompson⁹ reported lower pediatric patient satisfaction in comparison to adult patients in otolaryngology, our study is the first to consider differences between otolaryngology providers who care for both pediatric and adult patients when analyzing patient satisfaction. The facility and scheduling team in our study were the same for both the pediatric and adult cohorts. Thus, the similar wait times for adult and pediatric patients may be a key factor associated with similar total patient satisfaction scores. Boss and Thompson⁹ reported that the greatest difference in patient satisfaction scores between adult and pediatric otolaryngology patients was in regard to the length of wait time before examination.

Interestingly, in contrast to Redding et al who reported lower total satisfaction scores with younger patients within pediatric otolaryngology outpatient clinics, differences in pediatric satisfaction were only present in the access domain within our study.⁴ It is possible that the greater complexity of pediatric conditions and higher pediatric patient load in pediatric otolaryngology in comparison to general otolaryngology could have accounted for discrepancies seen from prior study.¹¹ Pediatric otolaryngologists were more likely to see patients with complex diseases including airway disorders or congenital anomalies and received a higher volume of pediatric referrals in comparison to general otolaryngologists.¹¹

It is likely that our results reflected the frustration of parents as they attempted to schedule appointments that accommodated the family's schedule. Although all patients had equal access to make an appointment since scheduling was centralized, parents of younger children may be less accepting of the same wait time as a parent with an older child. In 1 study by Comunale et al, the implementation of scheduling best practices to reduce time to schedule an appointment within a pediatric care setting yielded a 57 percentile increase in the patient satisfaction access domain.¹² Similar practice changes and engagement of key stakeholders on recommendations for improvement could help improve family satisfaction within any general or pediatric otolaryngology clinics that care for this younger age group.

While this study is strengthened by a large sample size and the use of a well-validated survey instrumentation (PGS), a few limitations still exist. First, additional factors, such as resident physician involvement, provider demographics, and telemedicine usage, known to be associated with patient satisfaction from prior literature could not be included in the analysis due to the limited scope of the PGS.^{6,13,14} Second, the PGS utilized in this study has a high ceiling rate given the skewing of patient satisfaction scores toward higher scores. This may reduce the power to discriminate between patients who have high satisfaction and oversimplify patient responses to survey questions. Third, given the location of our institution and large geographical distribution of patients, some who receive care from our specialists might travel long distances which might skew patient satisfaction score given

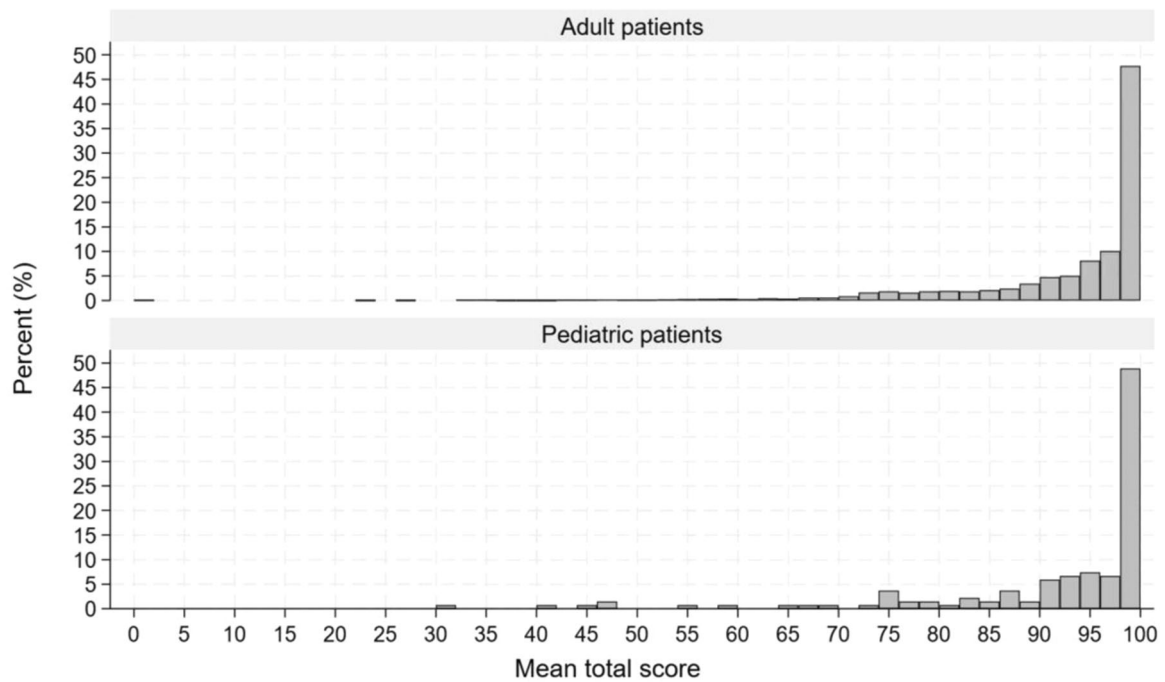


Figure 1. Total score distribution of Press Ganey survey.

Table 2. Press Ganey Survey Responses for Adult and Pediatric Patients by Service Domain and Item Questions

	Adult (mean \pm SD)	Pediatric (mean \pm SD)	P value
Access	90.67 \pm 13.54	88.8 \pm 16.73	.21
Ability to get desired appointment	85.46 \pm 22.20	83.08 \pm 26.64	.32
Ease of scheduling appointment	90.94 \pm 16.74	87.31 \pm 21.95	.06
Courtesy or registration staff	95.37 \pm 11.31	95.42 \pm 11.93	.96
Ease of contacting	92.08 \pm 15.42	88.19 \pm 21.12	.28
Moving through visit	88.90 \pm 19.16	84.83 \pm 24.81	.07
Information about delays	88.54 \pm 20.73	83.90 \pm 26.26	.06
Wait time at clinic	88.47 \pm 20.38	84.73 \pm 26.60	.12
Nurse/assistant	93.91 \pm 14.00	93.89 \pm 14.40	.99
Concern of nurse/assistant for problem	93.76 \pm 14.27	93.61 \pm 14.97	.91
How well nurse/assistant listens	94.60 \pm 13.72	93.57 \pm 15.27	.70
Care provider	93.98 \pm 15.20	94.88 \pm 14.63	.49
Care provider explanation of problem/condition	94.26 \pm 15.36	95.71 \pm 12.83	.21
Care provider concern for questions/worries	94.05 \pm 15.78	95.00 \pm 16.10	.5
Care provider efforts to include patient in decision-making	94.14 \pm 15.82	95.00 \pm 14.58	.51
Likelihood of recommending care provider	93.64 \pm 17.52	93.70 \pm 19.00	.97
Care provider discusses treatments	93.40 \pm 16.41	92.36 \pm 19.66	.76
Personal issues	95.30 \pm 11.03	95.30 \pm 11.26	1.00
How well staff protect safety	95.14 \pm 12.15	95.04 \pm 13.31	.93
Staff concern for patient privacy	95.57 \pm 11.16	95.61 \pm 11.39	.97
Overall assessment	94.60 \pm 13.86	93.24 \pm 17.92	.39
Staff worked together	95.02 \pm 12.98	93.15 \pm 18.43	.25
Likelihood of recommending	94.25 \pm 16.03	93.33 \pm 18.63	.58
Total score	92.86 \pm 11.37	91.83 \pm 13.58	.39

Table 3. Press Ganey Survey Responses for Pediatric Patients by Service Domain and Item Questions

	0-5 y old (mean ± SD)	6-11 y old (mean ± SD)	12-17 y old (mean ± SD)	P value
Access	85.46 ± 20.54	94.68 ± 11.51	87.33 ± 15.36	.03
Ability to get desired appointment	76.14 ± 32.33	91.45 ± 18.63	82.81 ± 24.82	.03
Ease of scheduling appointment	84.09 ± 28.06	95.39 ± 12.81	84.00 ± 20.05	.03
Courtesy or registration staff	95.00 ± 14.69	96.62 ± 10.48	94.90 ± 10.18	.77
Ease of contacting	81.25 ± 17.68	96.15 ± 13.87	85.00 ± 26.39	.22
Moving through visit	81.67 ± 30.80	89.47 ± 17.08	84.11 ± 23.60	.35
Information about delays	79.88 ± 32.07	89.39 ± 19.79	83.52 ± 23.47	.30
Wait time at clinic	82.22 ± 32.26	88.82 ± 18.10	83.85 ± 26.54	.51
Nurse assistant	94.03 ± 15.13	97.12 ± 11.28	91.25 ± 15.62	.16
Concern of nurse/assistant for problem	93.75 ± 15.37	96.79 ± 13.05	91.00 ± 15.78	.19
How well nurse/assistant listens	93.75 ± 17.68	96.15 ± 13.87	91.07 ± 15.83	.70
Care provider	93.25 ± 17.85	97.02 ± 9.92	94.68 ± 14.57	.50
Care provider explanation of problem/condition	94.44 ± 15.89	98.03 ± 6.83	95.10 ± 13.25	.41
Care provider concern for questions/worries	93.33 ± 20.23	96.79 ± 10.23	95.10 ± 15.83	.62
Care provider efforts to include patient in decision-making	93.33 ± 16.34	96.79 ± 10.23	95.10 ± 15.83	.56
Likelihood of recommending care provider	91.11 ± 23.93	96.15 ± 14.67	94.12 ± 17.02	.47
Care provider discusses treatments	93.75 ± 17.68	98.08 ± 6.93	86.67 ± 26.50	.31
Personal issues	95.56 ± 10.71	97.70 ± 7.61	93.25 ± 13.65	.18
How well staff protect safety	95.00 ± 11.43	96.05 ± 13.66	94.27 ± 14.80	.83
Staff concern for patient privacy	96.02 ± 10.71	99.32 ± 4.11	92.50 ± 14.510	.02
Overall assessment	91.67 ± 22.46	95.83 ± 15.79	92.65 ± 14.83	.55
Staff worked together	92.22 ± 22.50	96.15 ± 14.67	91.67 ± 17.08	.48
Likelihood of recommending	91.11 ± 23.32	95.51 ± 17.08	93.63 ± 14.87	.56
Total score	90.29 ± 17.03	95.15 ± 10.55	90.65 ± 11.93	.19

the time and resource investments. Furthermore, the survey response rate is historically low which could lead to inherent selection bias in this survey population. Prior studies within our institution with Press Ganey scores report a response rate of 12.6% to 19.1%.^{10,15,16} This is comparable to response rates reported in the literature, ranging from 10% to 27%.^{5,9,17,18} Finally, findings in this study may not be an accurate representation of patients and families. Surveys were distributed electronically to patients' email address, which might select for respondents with convenient online access. Surveys were also written in English which could lead to undersampling of non-English speaking minority populations. Lastly, the adult and pediatric groups are not equivalent based on race/ethnicity ($P < .001$) and insurance status ($P < .001$), likely due to the smaller sample size of pediatric patients. Future studies could further explore differences in patient satisfaction between pediatric and adult patients, accounting for other socioeconomic factors in addition to provider differences on a national multi-institutional level.

Conclusion

This study examined patient satisfaction between pediatric and adult patients in outpatient otolaryngology clinics. Our findings demonstrate that there was no significant

difference in patient satisfaction scores based on age of patients for providers who treat pediatric and adult patients utilizing the same facility and scheduling team. There were age group differences within the pediatric patient population in the access domain on ability to get desired appointment and ease of scheduling appointment. Identification of differences in patient satisfaction will guide clinicians in implementing targeted change within clinical practice to increase patient satisfaction.

Author Contributions

Emily Y. Huang, substantial contributions to conception and design, acquisition of data, analysis, and interpretation of data, revising the article critically for important intellectual content, final approval of the version to be published, and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; **Ryan Park**, substantial contributions to analysis and interpretation of data, revising the article critically for important intellectual content, final approval of the version to be published, and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; **Erica Park**, substantial contributions to analysis and interpretation of data, revising the article critically for important intellectual content, final approval of the version to be published, and agreement to be accountable for all aspects of


the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; **Matthew A. Firpo**, substantial contributions to analysis and interpretation of data, revising the article critically for important intellectual content, final approval of the version to be published, and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved; **Albert H. Park**, substantial contributions to conception and design, analysis, and interpretation of data, revising the article critically for important intellectual content, final approval of the version to be published, agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.


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ORCID iD

Emily Y. Huang  <http://orcid.org/0000-0002-0042-4976>

Albert H. Park  <http://orcid.org/0000-0001-9089-3014>

References

1. CMS. HCAHPS: patients' perspectives of care survey. CMS. 2023. Accessed October 18, 2023. <https://www.cms.gov/medicare/quality/initiatives/hospital-quality-initiative/hcahps-patients-perspectives-care-survey>
2. Durmuş A, Akbolat M. The impact of patient satisfaction on patient commitment and the mediating role of patient trust. *J Patient Exp*. 2020;7(6):1642-1647. doi:10.1177/2374373520967807
3. Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: a systematic review. *Perspectives Public Health*. 2016;137(2):89-101. doi:10.1177/1757913916634136
4. Redding TS, Stephens AR, Kazmers NH, Park AH. Evaluation of factors impacting patient satisfaction in a pediatric otolaryngology clinic. *Int J Pediatr Otorhinolaryngol*. 2022;156:111122. doi:10.1016/J.IJPORL.2022.111122
5. Boss EF, Thompson RE. Patient experience in the pediatric otolaryngology clinic: does the teaching setting influence parent satisfaction. *Int J Pediatr Otorhinolaryngol*. 2013;77(1):59-64. doi:10.1016/J.IJPORL.2012.09.030
6. Li SS, Herrick NL, Deshpande RR, et al. The impact of residents on patient satisfaction. *Ann Plast Surg*. 2018;80(5S suppl 5):S247-S250. doi:10.1097/SAP.0000000000001339
7. Committee on Hospital Care. American Academy of Pediatrics. Family-centered care and the pediatrician's role. *Pediatrics*. 2003;112(3):691-696. doi:10.1542/peds.112.3.691
8. Redding TS, Keefe KR, Stephens AR, Gurgel RK. Evaluating factors that influence patient satisfaction in otolaryngology clinics. *Ann Otol Rhinol Laryngol*. 2023;132(1):19-26. doi:10.1177/00034894211055531
9. Boss EF, Thompson RE. Patient experience in outpatient pediatric otolaryngology. *Laryngoscope*. 2012;122(10):2304-2310. doi:10.1002/LARY.23364
10. Presson AP, Zhang C, Abtahi AM, Kean J, Hung M, Tyser AR. Psychometric properties of the Press Ganey® Outpatient Medical Practice Survey. *Health Qual Life Outcomes*. 2017;15(1):32. doi:10.1186/S12955-017-0610-3/TABLES/2
11. Tunkel DE, Cull WL, Jewett EAB, Brotherton SE, Britton CV, Mulvey HJ. Practice of pediatric otolaryngology: results of the future of pediatric education II project. *Arch Otolaryngol Head Neck Surg*. 2002;128(7):759-764. doi:10.1001/ARCHOTOL.128.7.759
12. Comunale MJ, Dermody TS, Peters M, Rudolph JA, Sevco M, Young S. Consumer-centric approach to enhance access to pediatric specialty care. *Am J Manag Care*. 2022;28(6):e228-e231. doi:10.37765/AJMC.2022.89161
13. Nuyen B, Altamirano J, Fassiotto M, Alyono J. Effects of surgeon sociodemographics on patient-reported satisfaction. *Surgery*. 2021;169(6):1441-1445. doi:10.1016/J.SURG.2020.12.006
14. Itamura K, Tang DM, Higgins TS, et al. Comparison of patient satisfaction between virtual visits during the COVID-19 pandemic and in-person visits pre-pandemic. *Ann Otol Rhinol Laryngol*. 2021;130(7):810-817. doi:10.1177/0003489420977766
15. Tyser AR, Abtahi AM, McFadden M, Presson AP. Evidence of non-response bias in the Press-Ganey patient satisfaction survey. *BMC Health Serv Res*. 2016;16(a):350. doi:10.1186/S12913-016-1595-Z
16. Lee VS, Miller T, Daniels C, Paine M, Gresh B, Betz AL. Creating the exceptional patient experience in one academic health system. *Acad Med*. 2016;91(3):338-344. doi:10.1097/ACM.0000000000001007
17. Chen JG, Zou B, Shuster J. Relationship between patient satisfaction and physician characteristics. *J Patient Exp*. 2017;4(4):177-184. doi:10.1177/2374373517714453
18. Boss EF, Thompson RE. Patient experience in the pediatric otolaryngology clinic: does the teaching setting influence parent satisfaction? *Int J Pediatr Otorhinolaryngol*. 2013;77(1):59-64. doi:10.1016/J.IJPORL.2012.09.030