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# Unlocking the Doors to Patient Satisfaction in Pediatric Orthopaedics

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## Background

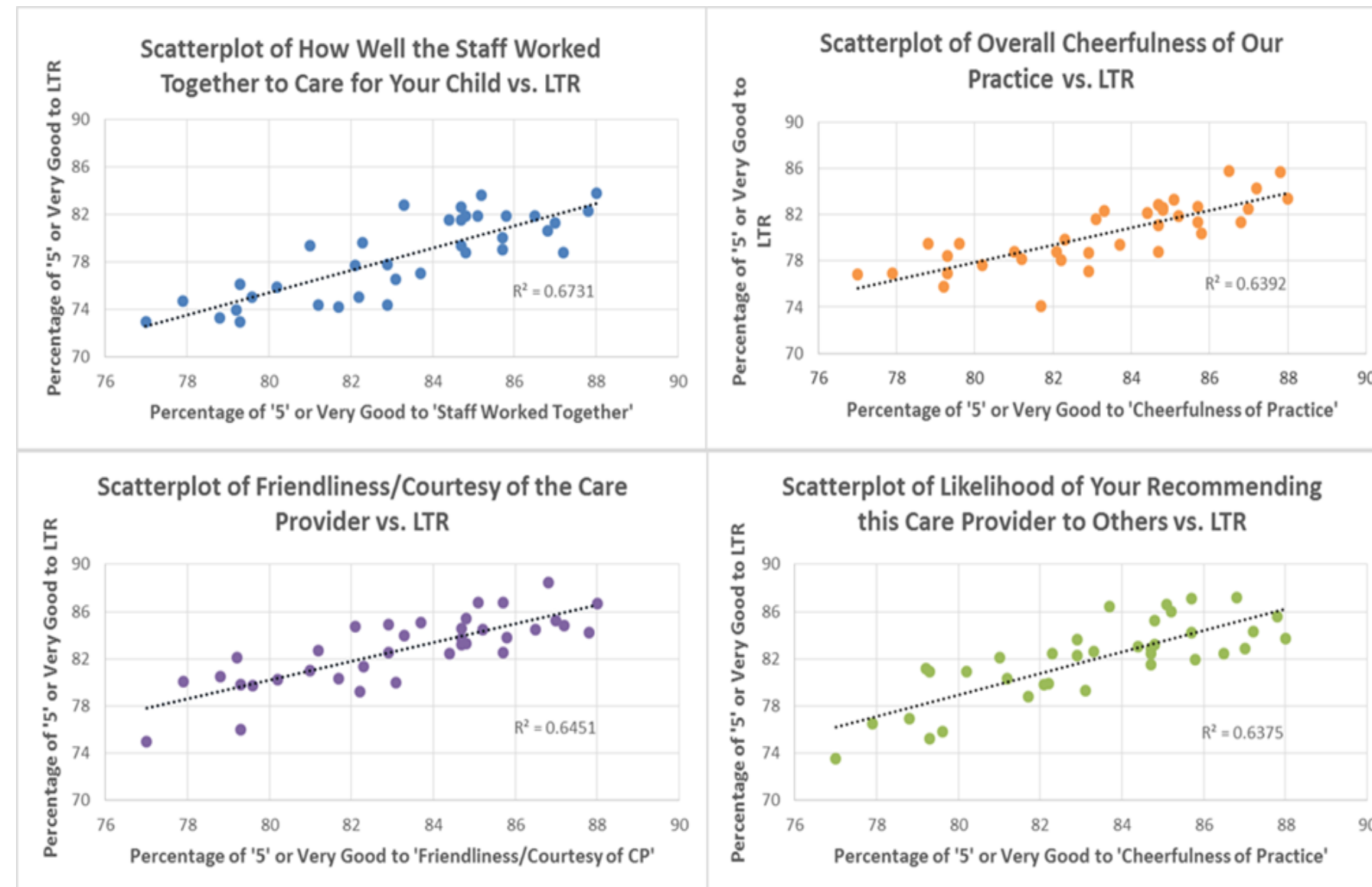
- Many hospitals continue to struggle to improve patient satisfaction as the identification of tangible quality improvement areas remains difficult [1].
- Medicare hospital payments are linked to patient satisfaction and hospitals' HCAHPS scores, which has contributed to the growing influence of patient satisfaction measures [1-3].
- Investigation into the major drivers of patient satisfaction in the pediatric clinical arena has not been thoroughly pursued.
- To determine the main drivers of patient experience in pediatric orthopaedics, we performed an analysis of patient satisfaction surveys collected from outpatient pediatric orthopaedic practices at 5 locations in 3 states.
- Hypothesis: the patient-physician relationship is the most important factor in patients' assessment of their experiences.
- These results may have significance in aiding pediatric orthopaedic clinics in their Quality Assurance/Quality Improvement plans of enhancing the patient experience.

## Methods

- Retrospective analysis of patient satisfaction surveys following visits to Nemours Children's pediatric orthopaedic ambulatory clinics between 2012 and 2014.
  - Jacksonville, Orlando, and Pensacola (Florida), as well as Wilmington (Delaware) and Newtown Square (Pennsylvania).
- 6,195 responses reviewed, 15% return rate.
- Variables measured on a 5 point Likert numerical scale:
  - '1' being 'very poor' and '5' being 'very good.'
- Patient satisfaction defined as 'Likelihood of Your Recommending our Practice to Others' or LTR.
- Statistical analysis using top box scores ('5' or 'very good') consisting of month over month Pearson product-moment correlation coefficients was used to determine the factors most predictive of LTR.
- Patient-physician relationship variables:
  - 'Friendliness/Courtesy of Care Provider'
  - 'Care Provider's Explanations of Problem/Condition'
  - 'Care Provider's Concern for Questions/Worries'
  - 'Care Provider's Efforts to Include You in Decisions about Your Child's Treatment'
  - 'Care Provider's Information about Medications'
  - 'Care Provider's Instructions for Follow-Up Care'
  - 'Care Provider Spoke Using Clear Language'
  - 'Time Care Provider Spent with Patient'
  - 'Patients' Confidence in Care Provider'
  - 'Likelihood of Recommending Care Provider'

## Results

**Figure 1: Top four survey responses with the strongest relationships to LTR**



- Each graph contains 36 data points, where each data point corresponds with single month average percentages of '5' or 'very good' responses over three years.
- $r^2$  quantifies the extent to which an independent variable can predict the dependent variable. Specifically, 0.6731, 0.6451, 0.6392, and 0.6375 all represent the proportion of variance in LTR that can be explained by the measured variables.

**Table 1: List of Survey Responses/Questions with their corresponding correlation coefficients**

Survey Response/Question	Correlation Coefficient (r)
<b>Strong Relationships (r &gt; 0.6)</b>	
Staff Worked Together	0.82
Friendliness/Courtesy of Care Provider	0.80
Cheerfulness of Practice	0.80
Likelihood of Recommending Care Provider	0.80
Care Provider's Information about Medications	0.78
Our Concern for Patients' Privacy	0.76
Patients' Confidence in Care Provider	0.75

- Survey responses with the strongest correlation to LTR included:
  - 'How Well the Staff Worked Together to Care for Your Child' (r = 0.82)
  - 'Friendliness/Courtesy of the Care Provider' (r = 0.80)
  - 'Overall Cheerfulness of Our Practice' (r = 0.80)
  - 'Likelihood of Your Recommending this Care Provider to Others' (r = 0.80)
  - 'Information the Care Provider Gave You About Medications (if any)' (r = 0.78)

## Discussion

### Study Limitations

- Possible response bias, since families with either positive or negative experiences are more likely to be represented in low response rates.
- Healthcare industry finds validity in survey measurements despite the controversy surrounding low response rates.
- Sensitivity regarding the use of top box scores: physicians argue that 4's should be included with 5's in measuring high performance. If top box scores were more inclusive, then there would be little room for improvement.
- This analysis was performed on patients seen in pediatric academic practices which may make the results less generalizable to the broader orthopaedic clinical setting.

### Conclusions

- Key drivers: mixture of the patient-physician relationship, overall cheerfulness of the practice, and interactions with the staff.
- Future efforts to enhance the patient experience should capitalize on these measures.
- Patients and their families may value similar qualities in their healthcare providers in other pediatric subspecialties. However, additional investigation may be necessary to assess the applicability of these results in other subspecialties.

**Table 2: Suggestions that may improve patient satisfaction in pediatric orthopaedic care settings**

Main Drivers of Patient Satisfaction	Improvement Suggestions
Staff Worked Together	Minimize patient hand off to avoid redundancy and enhance patients' comfort through collaborative teamwork.
Friendliness/Courtesy of Care Provider	Address patients directly, listen to families' concerns without rushing or interrupting, smile warmly, greet everyone in the family, and wash hands before examining/touching patients.
Cheerfulness of Practice	Engage patients with fun books and toys in waiting areas, and introduce themed days.
Likelihood of Recommending Care Provider	Avoid using medical jargon, empathize with any emotional concerns, and answer all questions in a respectful manner.
Care Provider's Information about Medications	Provide clear instructions both verbally and in writing, and ask families to clarify their understanding.

## References

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