

Bitsakou I¹, Li P², Jackson J¹, Zhang P¹

¹Dept. of Pediatric Dentistry, School of Dentistry, University of Alabama at Birmingham, Birmingham, AL ²Dept. of Biostatistics, School of Public Health, University of Alabama at Birmingham, Birmingham, AL

BACKGROUND:

Language barriers are a known contributor to health disparities, particularly among Hispanic patients with limited English proficiency. While prior research has examined the interpreter use and communication challenges in general medical settings, a critical gap remains in understanding how these barriers specifically affect pediatric dental care, treatment outcomes, and parents' experiences during their child's dental care.

Objectives: To evaluate whether language barriers and interpreter use are associated with poorer pediatric dental outcomes, evaluated by missed appointments, incomplete treatment plans, and emergency visits. In addition, to understand caregiver perspectives on the communication support for dental visits.

METHODOLOGY:

Study Design: Quantitative design, consisting of (1) a Retrospective Chart Review of existing clinical data. **Study Population:** Patients aged 0-18 years with at least one visit at UAB Clinic and Children's Hospital Clinic, between October and December of 2025. **Inclusion Criteria:** Ages 0-18, >1 visit, ≥6 months follow-up, complete records. **Sample size: N = 312.**

(2) a cross-sectional, multiple-choice Parent-Reported Questionnaire, designed to assess parents' own communication experiences during their child's dental care and their preferences for language support. **Sample size: n= 84.**

Statistical Analysis: Descriptive statistics, Bivariate Analyses, Multivariable Logistic Regression models. Significance level: $P < .05$.

IRB Approval no: IRB-300015361.

RESULTS:

Figure 1. Clinical Outcomes by Interpreter Status

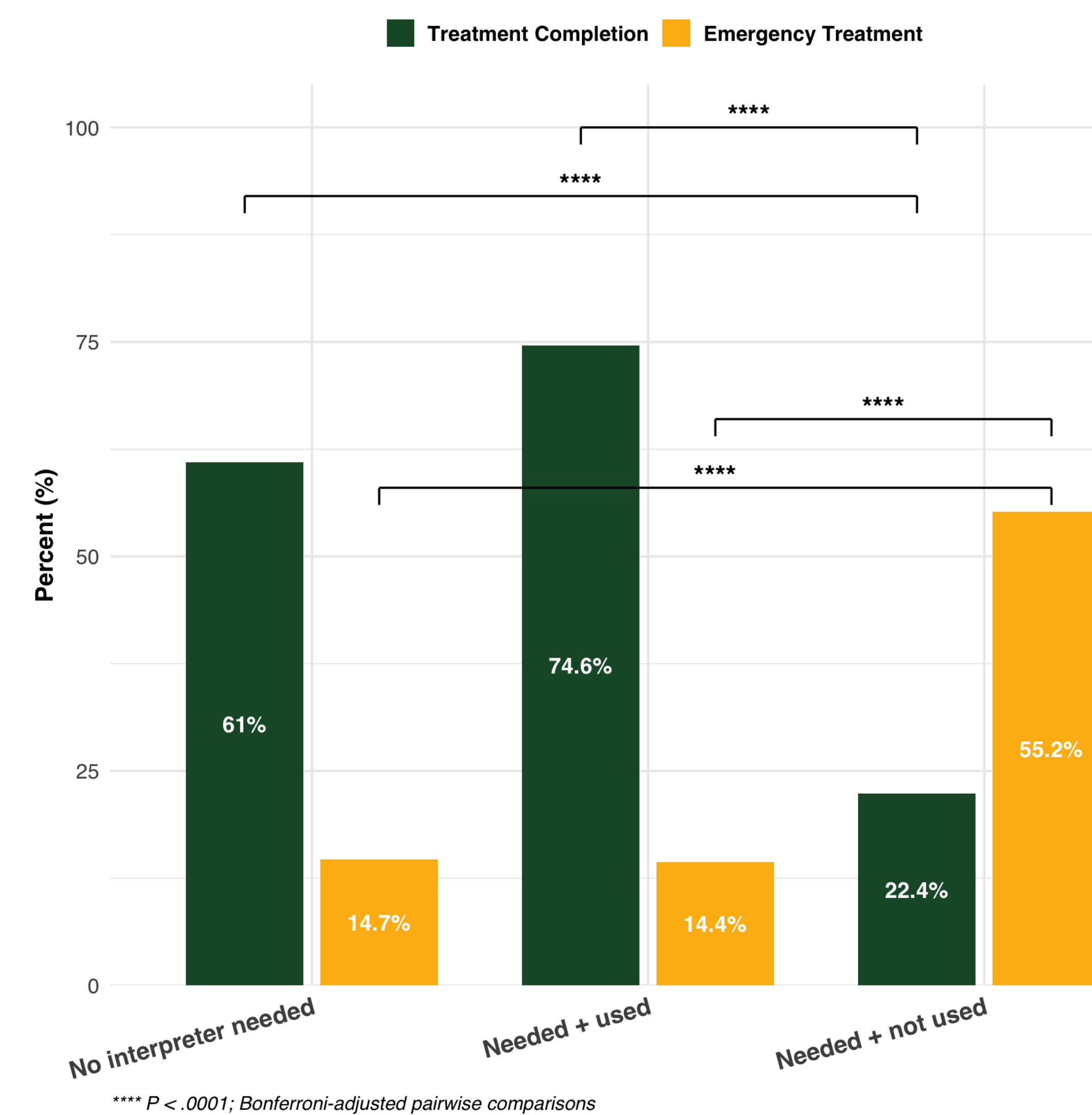


Figure 2. Missed Appointments by Interpreter Status

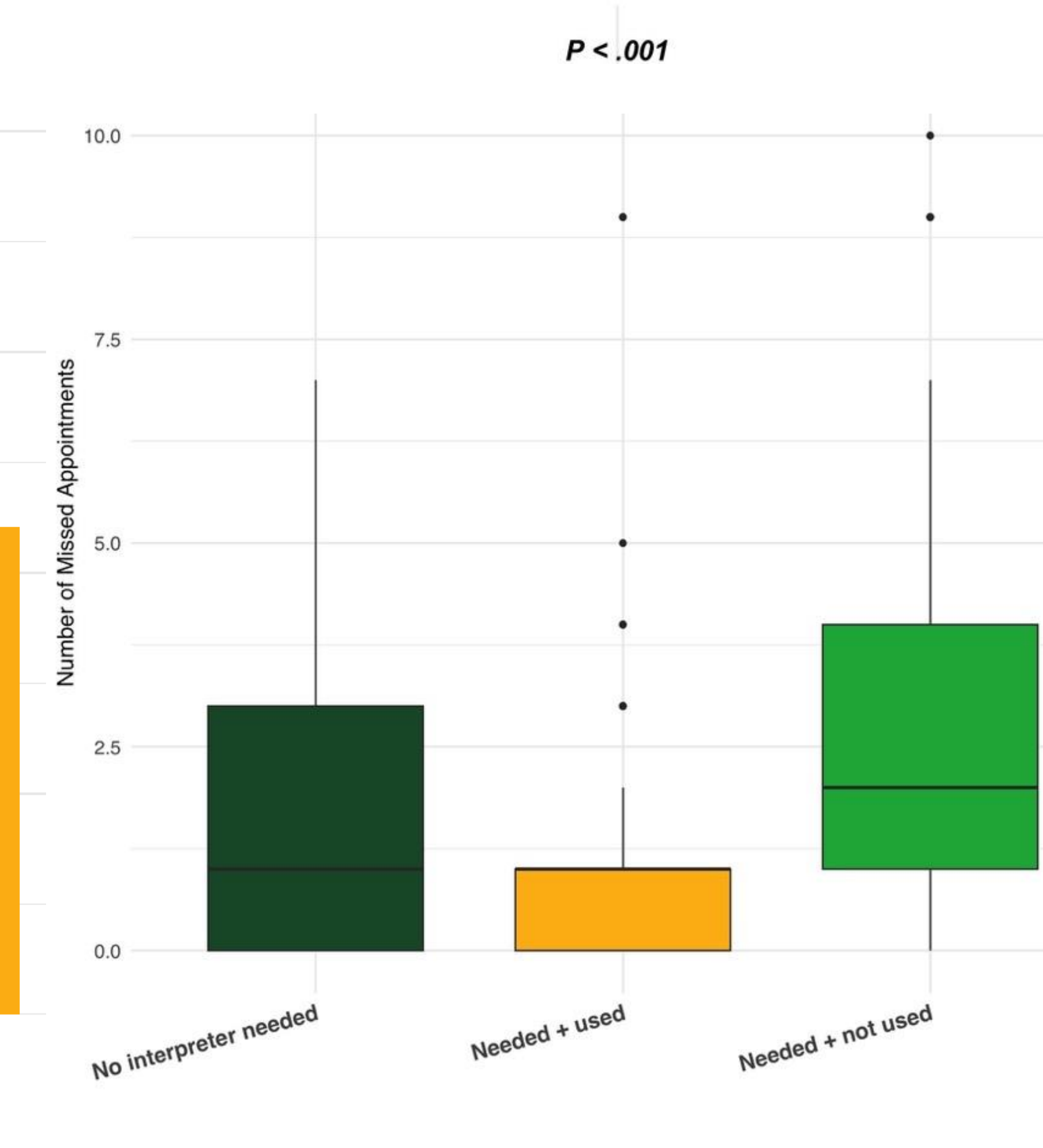


Figure 3. Communication Methods Used During Visit

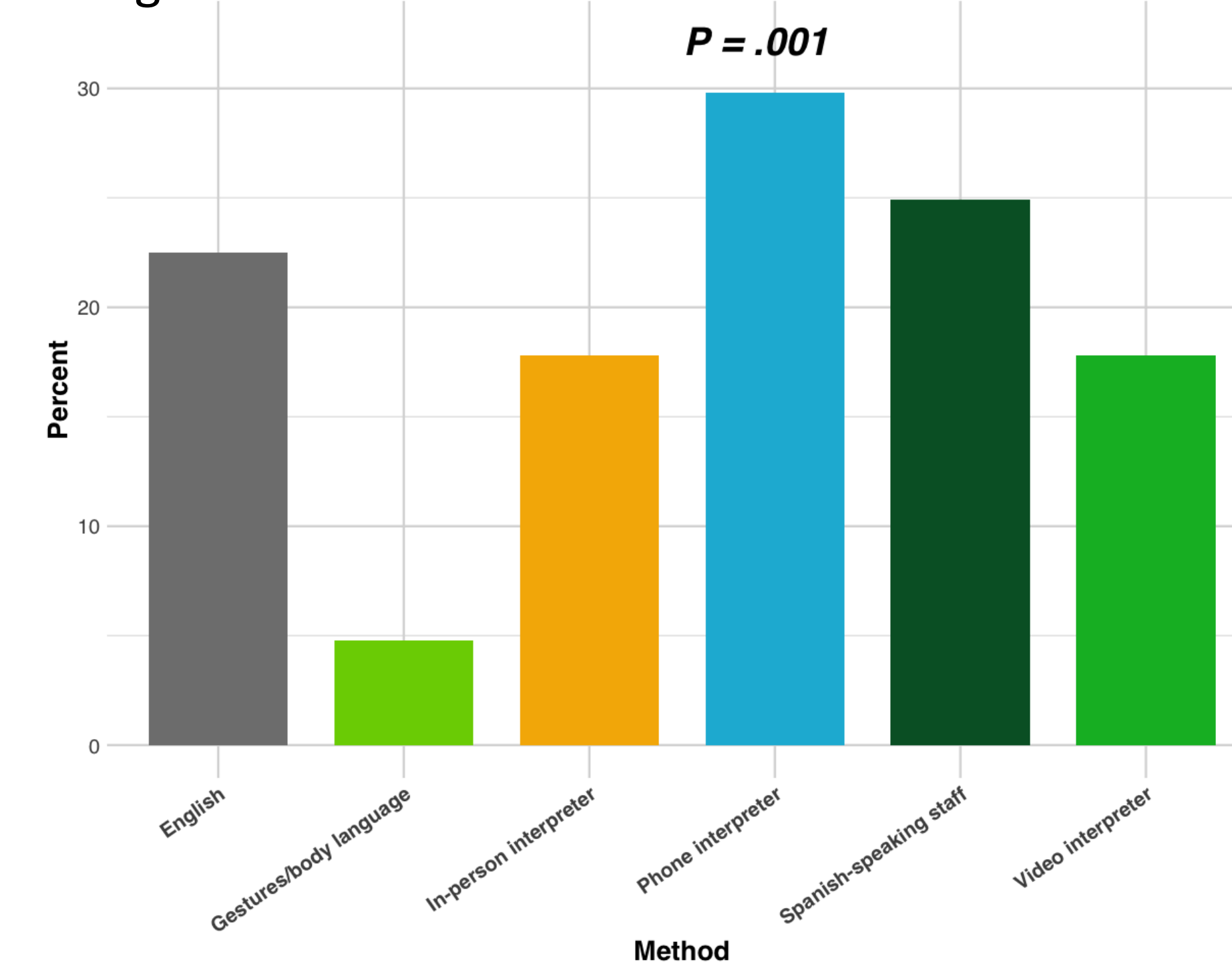
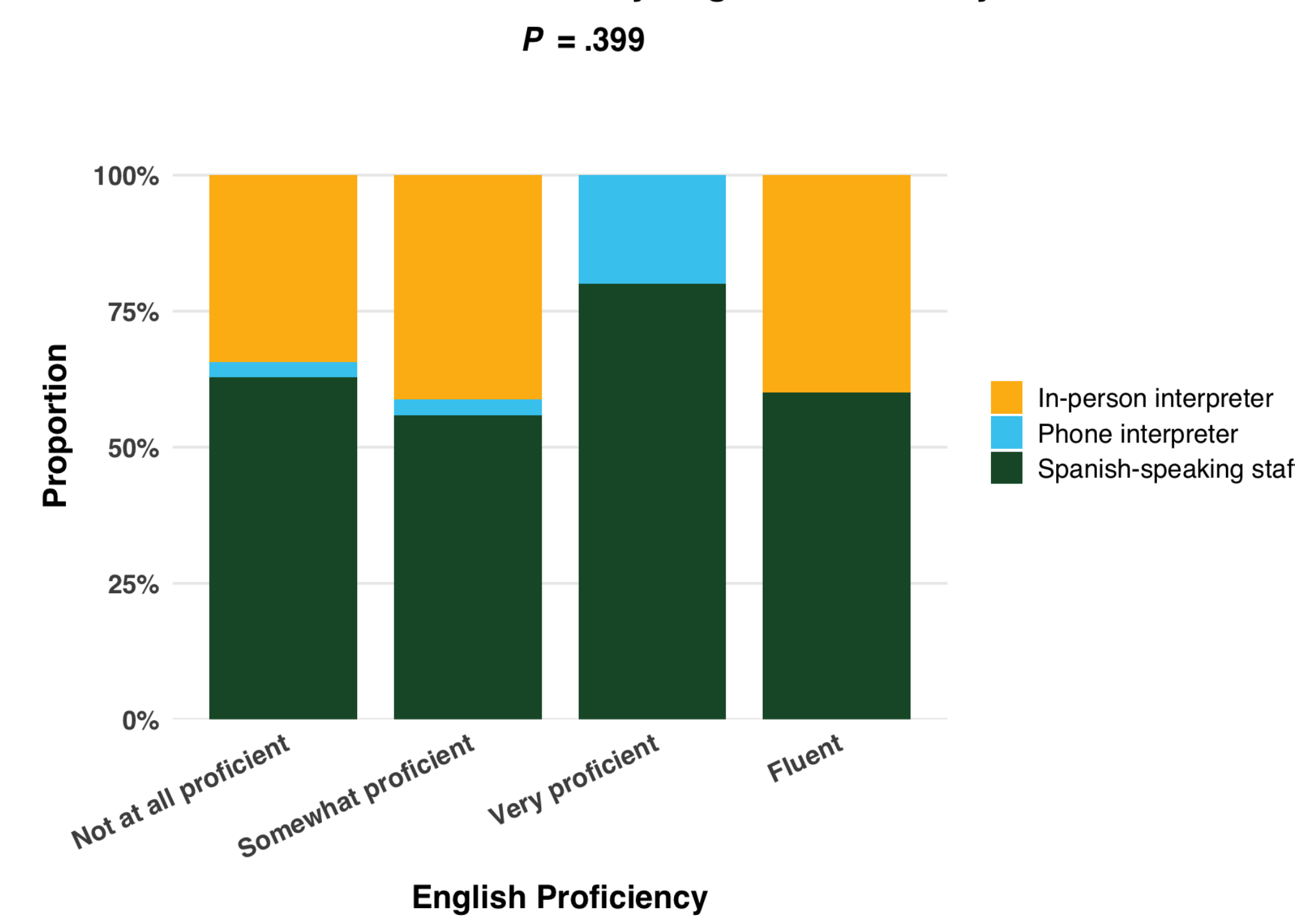


Figure 4. Preferred Communication by English Proficiency



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RESULTS:

Table 1. Predictors of Clinical Outcomes

Outcome	Predictor	OR	95% CI	P-value
Treatment completion	Interpreter used	2.10	1.19-3.68	.010
Treatment completion	Interpreter not used	0.21	0.10-0.44	< .001
Treatment completion	Medical complexity	2.06	1.10-3.87	.025
Treatment completion	Missed appointments	0.97	0.85-1.10	.633
Emergency treatment	Interpreter used	0.86	0.42-1.77	.679
Emergency treatment	Interpreter not used	8.61	4.01-18.47	< .001
Emergency treatment	Medical complexity	0.90	0.43-1.89	.793
Emergency treatment	Missed appointments	0.86	0.73-1.01	.058

Significant results highlighted in green; bold P-values indicate $P < .05$.

CONCLUSIONS:

- Disparities in pediatric dental outcomes are driven by **communication access**, rather than language, socioeconomic status, or medical complexity alone.
- Interpreter use normalizes outcomes, with results comparable to those without language barriers.
- Caregiver communication preferences reveal a **mismatch** between current communication methods and desired language-concordant care.

Interpretation:

Access to patient-centered, language-concordant communication influences clinical outcomes, and is crucial to enhancing equity and quality of care.