

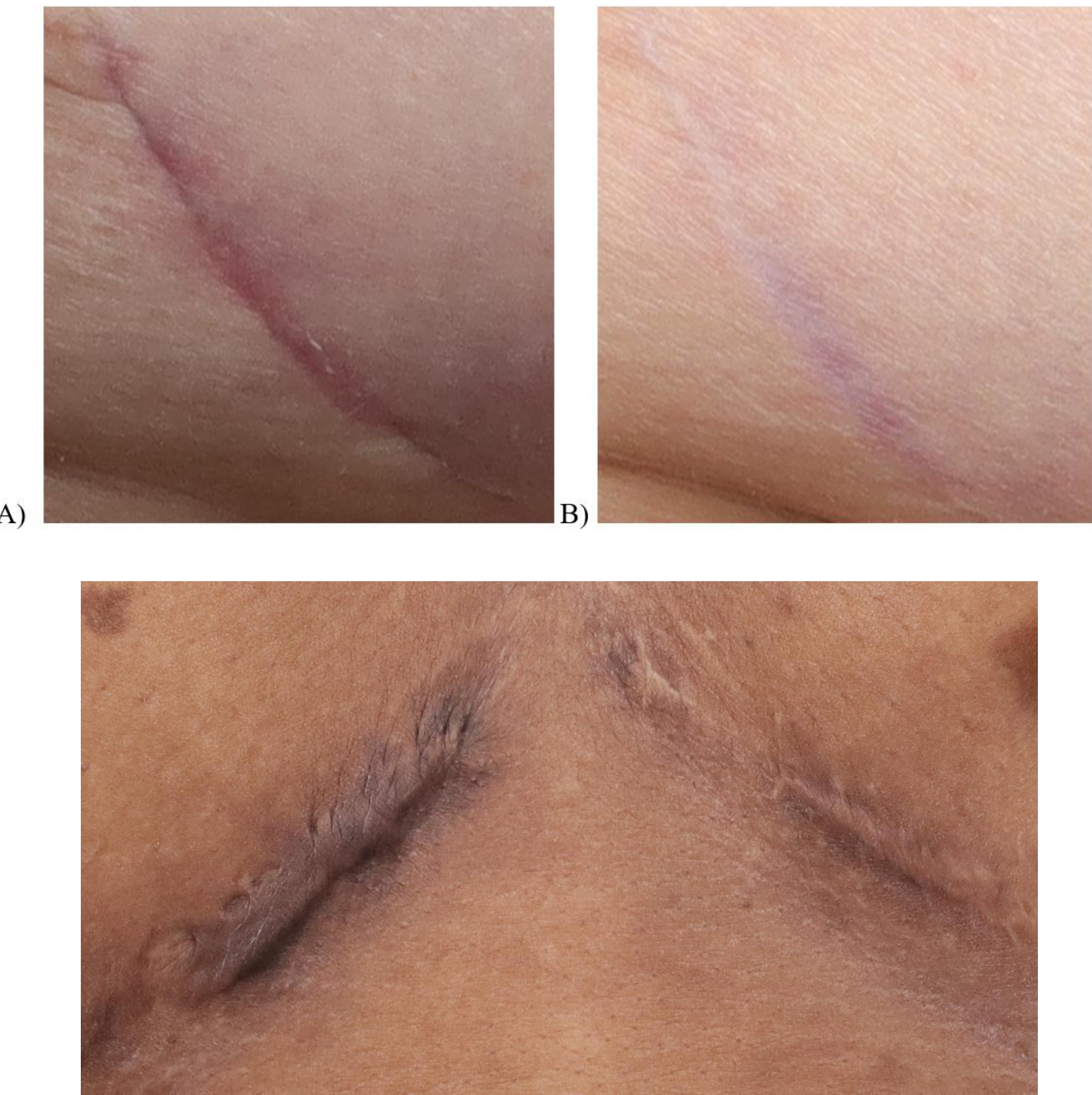
Early Patient-Reported Outcomes as Predictors of Long-Term Scar Satisfaction: An Exploratory Cohort Study

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Background

- Scar assessment has traditionally relied on objective clinical measures (e.g., height, width, vascularity).
- Patient-reported outcomes (PROs) like the SCAR-Q and POSAS offer insight into psychosocial burden, appearance concerns, and quality of life.
- The ability of early PROs to predict long-term scar satisfaction remains underexplored.



Research Objective

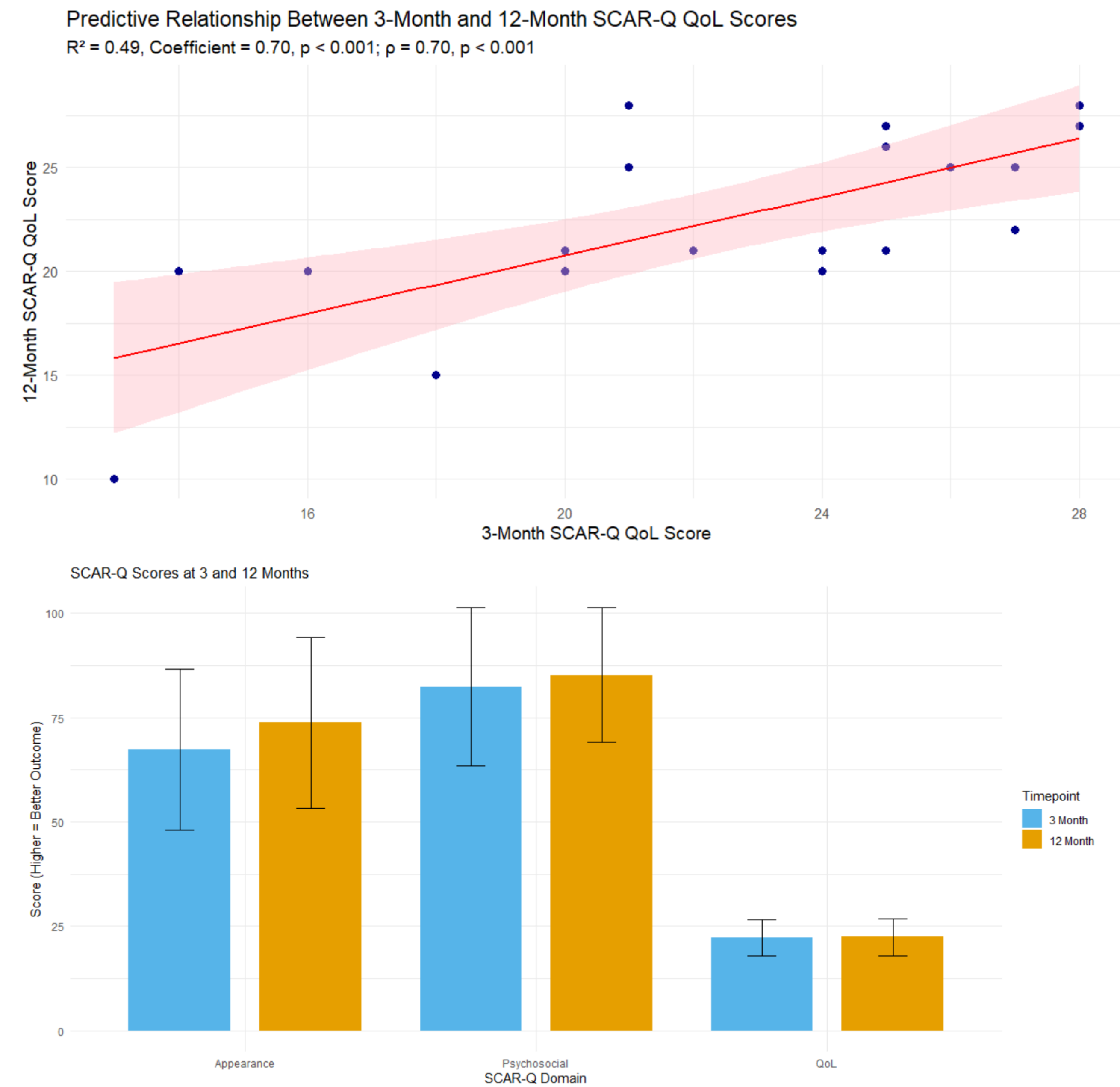
This study investigates whether 3-month PROs can forecast 12-month outcomes and how they relate to objective scar metrics.

Methods

- Study Design:** Prospective observational cohort study with within-subjects design.
- Participants:** 20 adult female patients undergoing various surgical procedures
- Timepoints:** 3 and 12 months postoperatively.
- Patient-Reported Outcomes:**
 - SCAR-Q measured appearance, psychosocial impact, and quality of life (QoL); higher scores indicate better outcomes.
 - POSAS captured patient and clinician evaluations of scar quality.
- Objective Measures:** Scar width, height, depth, and vascularity recorded by board-certified plastic surgeons
- Statistical Analyses:**
 - Paired t-tests compared changes over time.
 - Linear regression and Spearman correlation
 - Point-biserial correlations examined associations with good vs. bad scar ratings.

Results

- SCAR-Q Trends:**
 - QoL remained highly stable (mean change = 0.10, $p = 0.899$).
 - Psychosocial and appearance scores showed mild improvements.
- Predictive Validity:**
 - QoL at 3 months strongly predicted 12-month QoL
 - $R^2 = 0.49$, $p < 0.001$; $\rho = 0.70$, $p < 0.001$
 - Psychosocial and appearance domains were not predictive
 - $R^2 \leq 0.12$, $p > 0.1$
- Objective Scar Measures:**
 - 3-month width and height significantly predicted 12-month appearance and psychosocial scores
 - Width vs. Appearance: $\rho = -0.65$, $p = 0.002$
 - Height vs. Appearance: $\rho = -0.74$, $p < 0.001$
 - Wider/taller scars more likely rated as “bad” ($r \geq |0.53|$, $p \leq 0.016$)
- POSAS and Overall Opinion:**
 - POSAS scores worsened ($p = 0.0205$), while overall opinion improved ($p = 0.0194$), suggesting diverging trends between detailed vs. global scar perceptions

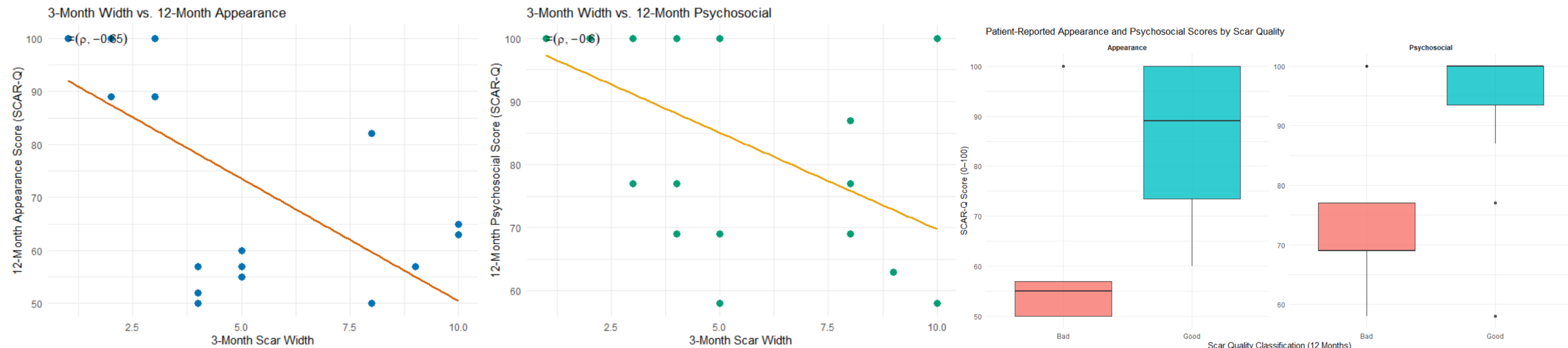


Conclusions

- Early QoL scores are strong predictors of long-term outcomes, supporting their integration into early scar follow-up care.
- Appearance and psychosocial domains are more variable over time and may be influenced by evolving expectations or emotional adaptation.
- Objective scar features such as width and height at 3 months are significantly associated with poorer patient-reported outcomes at 12 months.
- Validated PRO tools (SCAR-Q, POSAS) can guide personalized scar management and help identify patients at risk for dissatisfaction.
- Routine use of early PROs and objective metrics may improve patient satisfaction and inform timely, targeted interventions.

Limitations

- Small sample size ($n=20$) may limit generalizability, though within-subject design preserved statistical power.
- Scar heterogeneity across procedures may introduce variability, but SCAR-Q is validated across diverse scar types.



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