



Psychosocial Support Training for Neonatology Fellows Through Online Simulation

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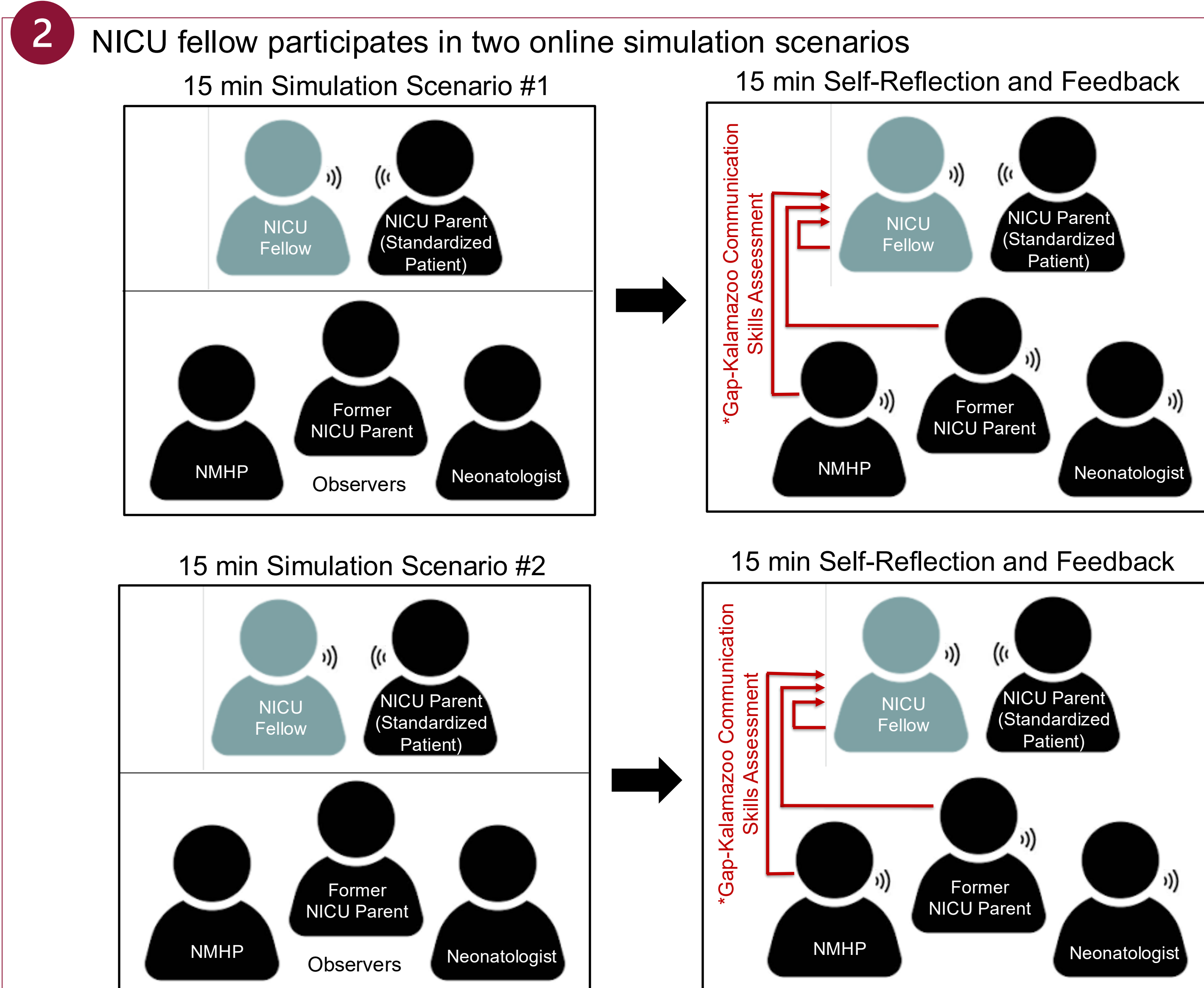
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Introduction

Parents of infants in the Neonatal Intensive Care Unit (NICU) frequently experience high levels of emotional distress. Effective communication from healthcare providers can mitigate this distress, yet neonatology fellows receive limited training in providing psychosocial support. We evaluated the impact of an online simulation program on neonatology fellows' communication skills and self-efficacy when addressing common NICU parent concerns.

Study Design

- 1 NICU fellow completes:
 - 1) Knowledge Assessment: 4 domains (8 questions each, 32 questions total) - Trauma Informed Communication, Infant Mental Health, Parent Mental Health, and Comprehensive Mental Health
 - 2) Pre- Self-efficacy Assessment: 3 domains (8 questions each, 24 questions total) - Communication, Infant Mental Health, Parent Mental Health



- 3 NICU fellow completes post-self-efficacy assessment.

Methods

- Fellows, Neonatal Mental Health Professionals (NMHPs) and former NICU parents provided narrative feedback on fellows' performance in the simulation. 1 neonatologist and 3 NMHPs used qualitative thematic analysis to identify common themes and codes, and categorized comments as complimentary vs. corrective.
- Descriptive statistics summarized fellows' knowledge and self-efficacy scores.
- Independent sample t-tests compared knowledge scores of participating to non-participating fellows, and a within-subjects t-test compared self-efficacy scores before vs. after the online simulation program.
- A within-subjects ANOVA, with planned comparisons, compared communication effectiveness across respondents to determine whether scores significantly differed depending on who was reporting.

Results

- 13 fellows from 5 training programs completed the online simulation program.
- Knowledge scores for participating fellows ($M = 76.5\%$) were not significantly different compared to non-participating fellows ($M = 79.5\%$), and represented a small effect size (Cohen's $d = 0.3$), indicating that fellows participating in the simulation had knowledge representative of the larger group of fellows.
- Narrative feedback from NMHPs and former NICU parents (22 and 25/26 codes, respectively) was more detailed than fellow feedback (15/26 codes) and identified key themes including: information delivery, mental health, relationship building, and communication techniques (**Figure 1**).
- Comparing scores across reporters indicated a significant effect of reporter ($F(2, 11) = 7.7, p = .008$). Planned comparisons indicated that ratings by the fellow and by faculty were generally comparable ($p = .23$), whereas, ratings by the parent were generally higher than self-ratings ($p < .001$). (**Figure 3A**)
- Fellows had decreased self-efficacy after participation, ($t(12) = 2.88, p = .02$) (**Figure 3B**).

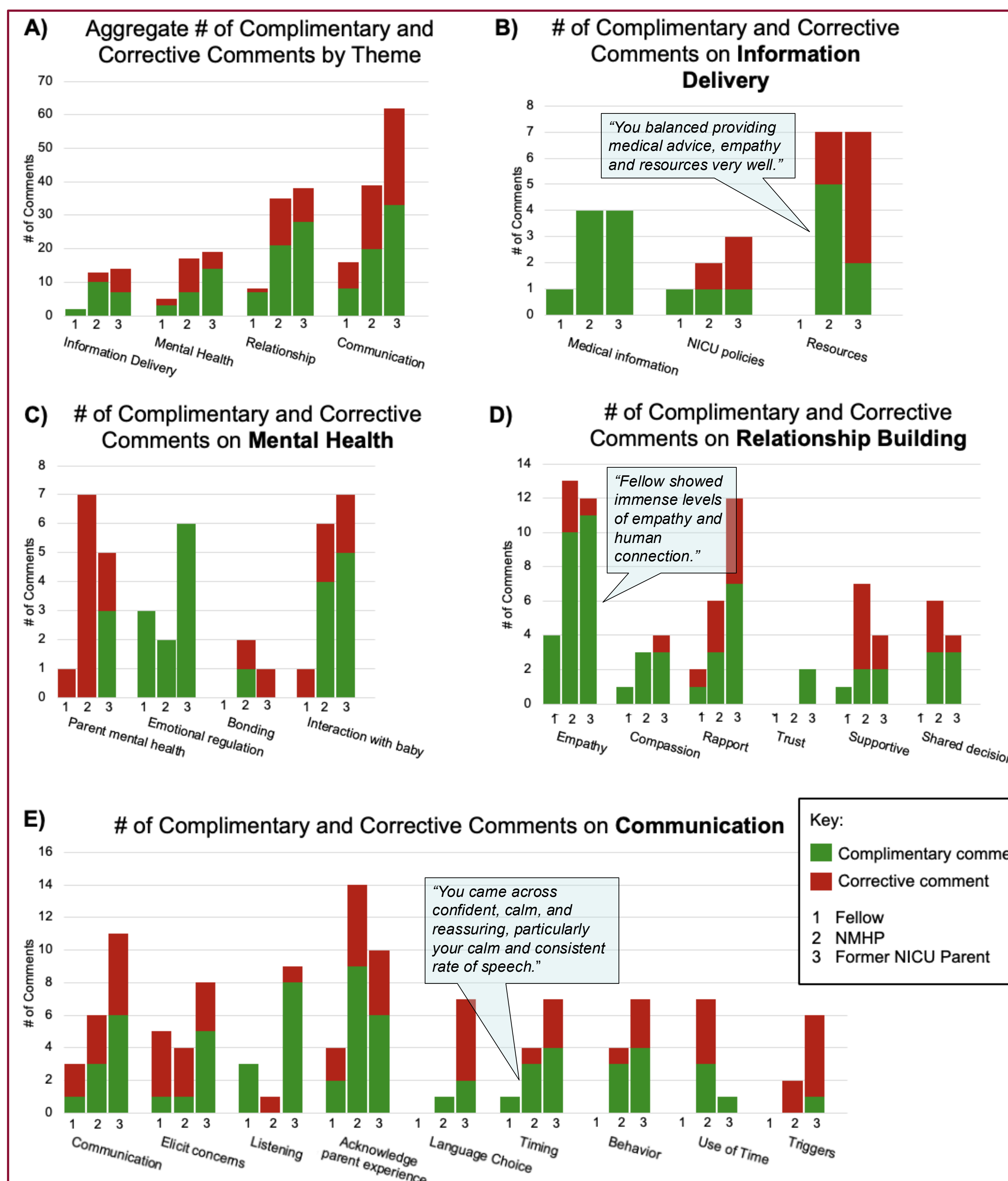


Figure 1. Complimentary and corrective narrative comments from qualitative analysis categorized by themes.

A) Aggregate number of narrative comments by themes. **B)** Number of narrative comments on **information delivery**. **C)** Number of narrative comments on **mental health**. **D)** Number of narrative comments on **relationship building**. **E)** Number of narrative comments on **communication**.

	Information Delivery	Mental Health	Relationship Building	Communication
Fellow	100%	60%	87%	50%
NMHP	76%	41%	60%	51%
Former NICU Parent	50%	73%	73%	53%

Figure 2. Proportions of complimentary feedback by reporter (fellow vs. NMHP vs. former NICU parent) across different themes.

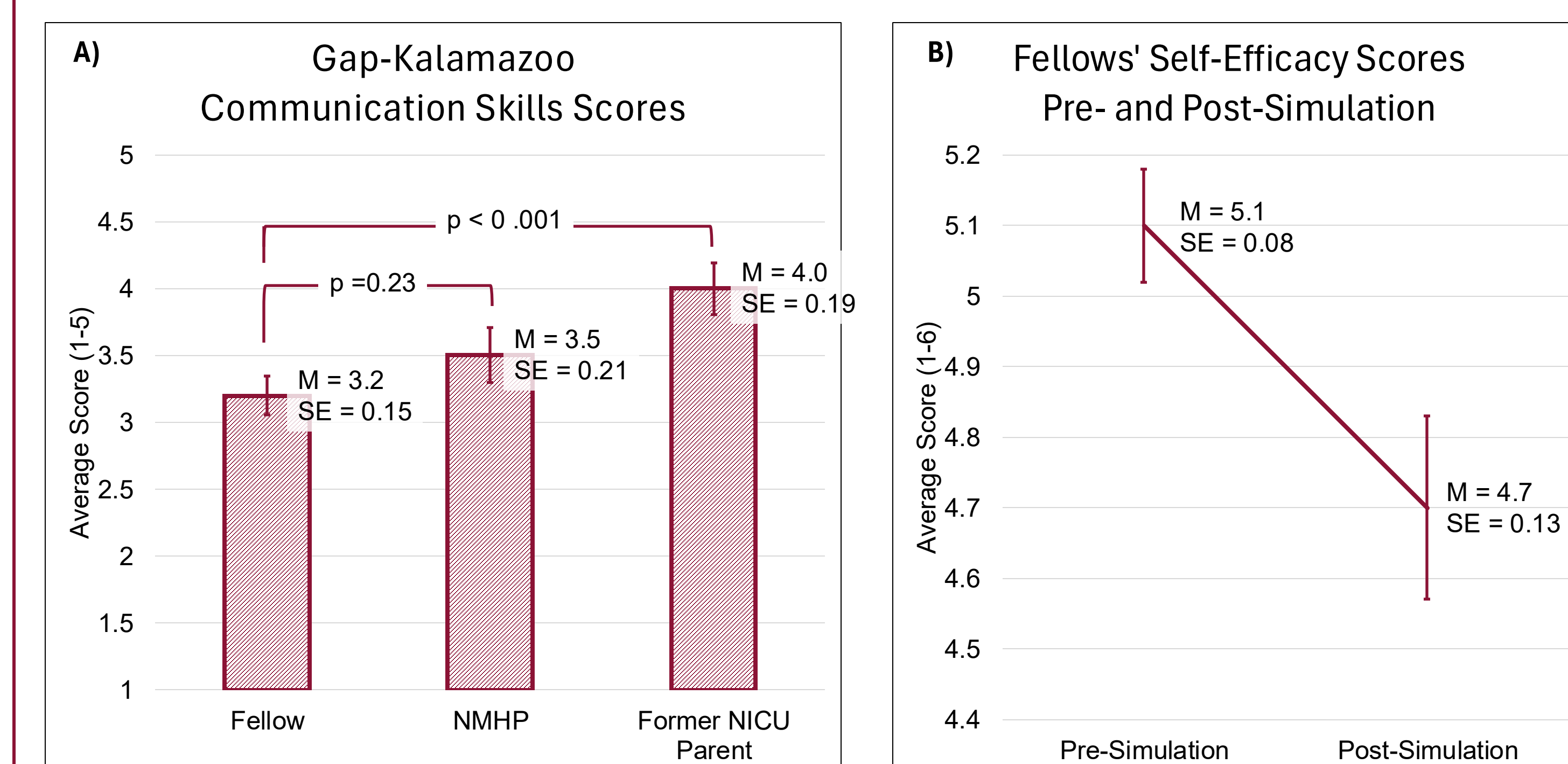


Figure 3. A) Fellows' average Gap-Kalamazoo Communication Skills scores on a Likert scale (1-5) as determined by fellow vs. NMHP vs. former NICU parent. **B)** Fellows' average self-efficacy scores pre- vs. post-simulation on a Likert scale (1-6).

Limitations

- This study was a pilot study with a small number of participants ($n=13$).
- Not all fellows completed all the post-simulation evaluations, especially the free text answers.
- We did not perform inter-rater reliability after our training sessions with participants on the use of the Kalamazoo Scale.
- Impacts on actual clinical performance were unmeasured.

Conclusions

Online simulation is an effective method for training neonatology fellows in communication strategies to provide psychosocial support to NICU parents.

- Fellows are more critical of their communication skills in addressing mental health but provide less detailed self-reflection than NMHPs and former NICU parents, suggesting that each reporter brings different perspectives, and that fellows may be unaware of communication strengths/deficits.
- Decreased self-efficacy after participation suggests heightened recognition of the complexities involved in addressing parental emotional distress, reinforcing the need for training and real-life application of acquired knowledge.

Acknowledgements

We extend our appreciation to the NICU parent graduates who participated in this study: Kasey Matthews, Cristal Grogan, Lisa Grubbs, Yamile Jackson, Katie Cascamo, Cindy Dedears, Rebekah Mitchell.

Grant funding provided by Association of Pediatric Program Directors and Stanford CTSA award number UL1 TR001085 from NIH/NCRR.