

Background

- Semi-Occluded Vocal Tract exercises (SOVTEs) are widely used voice therapy techniques that improve vocal efficiency and reduce phonatory effort.
- SOVTEs have become increasingly disseminated through YouTube, transforming voice therapy into an open-access digital resource.
- Patients have increasingly relied on online videos in place of formal clinical instruction.
- However, how online SOVTE content is structured and perceived has not been systematically evaluated.
- This study aims to analyze YouTube SOVTE **content** and audience **sentiment**.
- Analysis of viewer reactions to online content through their sentiments can also provide healthcare professionals with evidence-based instruction to frame effective delivery, especially through virtual visits and public health messaging.

Methods

- **Data Collection: YouTube API (19 search terms)**
- **Top Videos Retrieved based on pre-determined keywords (2015–2025)**
- **Metadata + Comments + Transcripts (AssemblyAI)**
- **Inclusion criteria**
 - English only
 - ≥100 likes
 - Valid transcript

Final Cohort (n = 218 videos)

Content Analysis

- Terminology (clinical vs colloquial)
- Creator type (ie. Professional)
 - Techniques
 - Narrative patterns
 - Engagement

Sentiment Analysis

- 3 transformer models
- 5-point scoring
- Composite sentiment

Statistical Analysis

- Correlation analysis
- Temporal trends
- Emotion clustering

Results

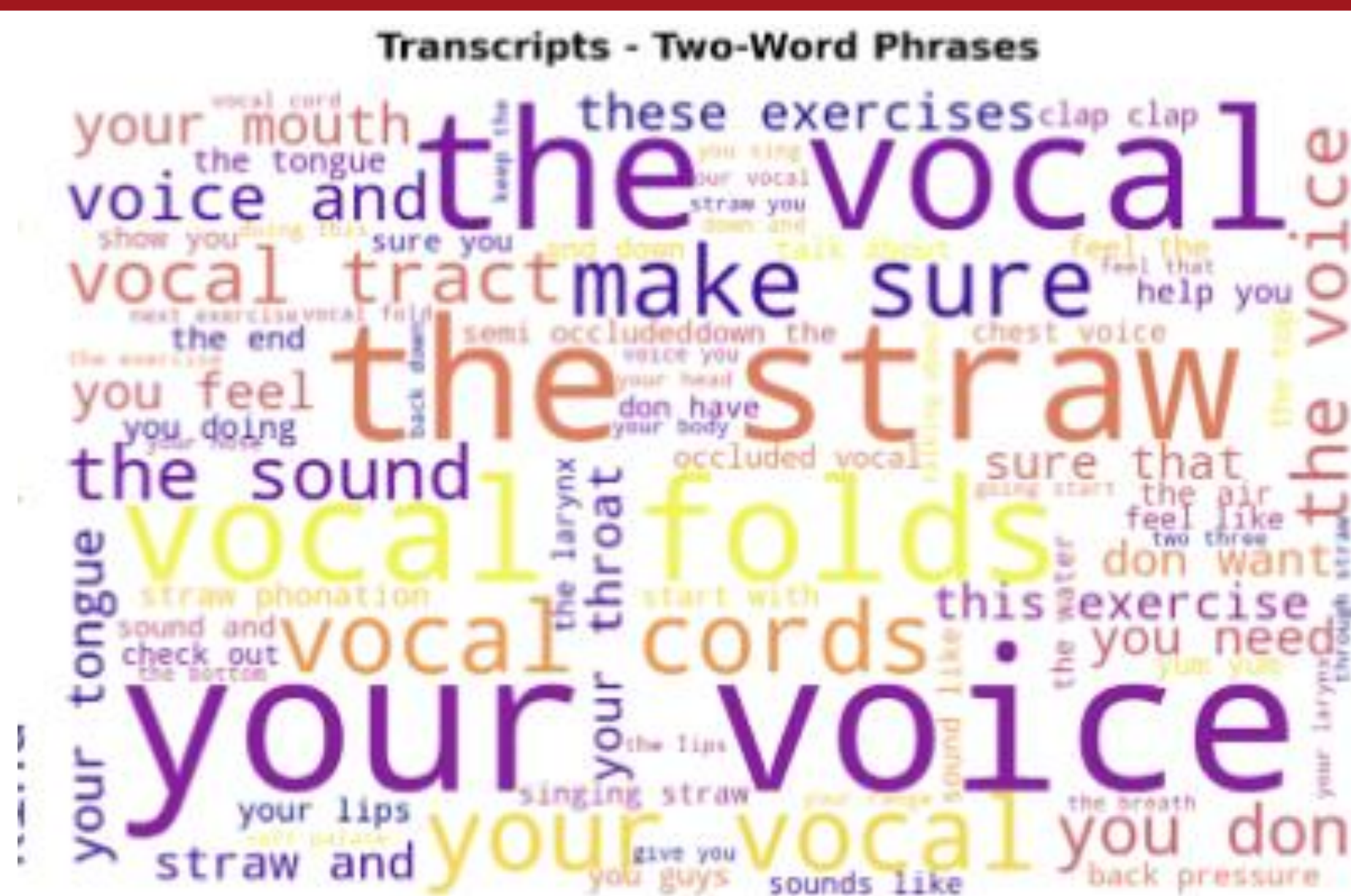


Figure 1. Example of word cloud analysis depicting the most two-word phrases in video transcripts.

Results (cont'd)

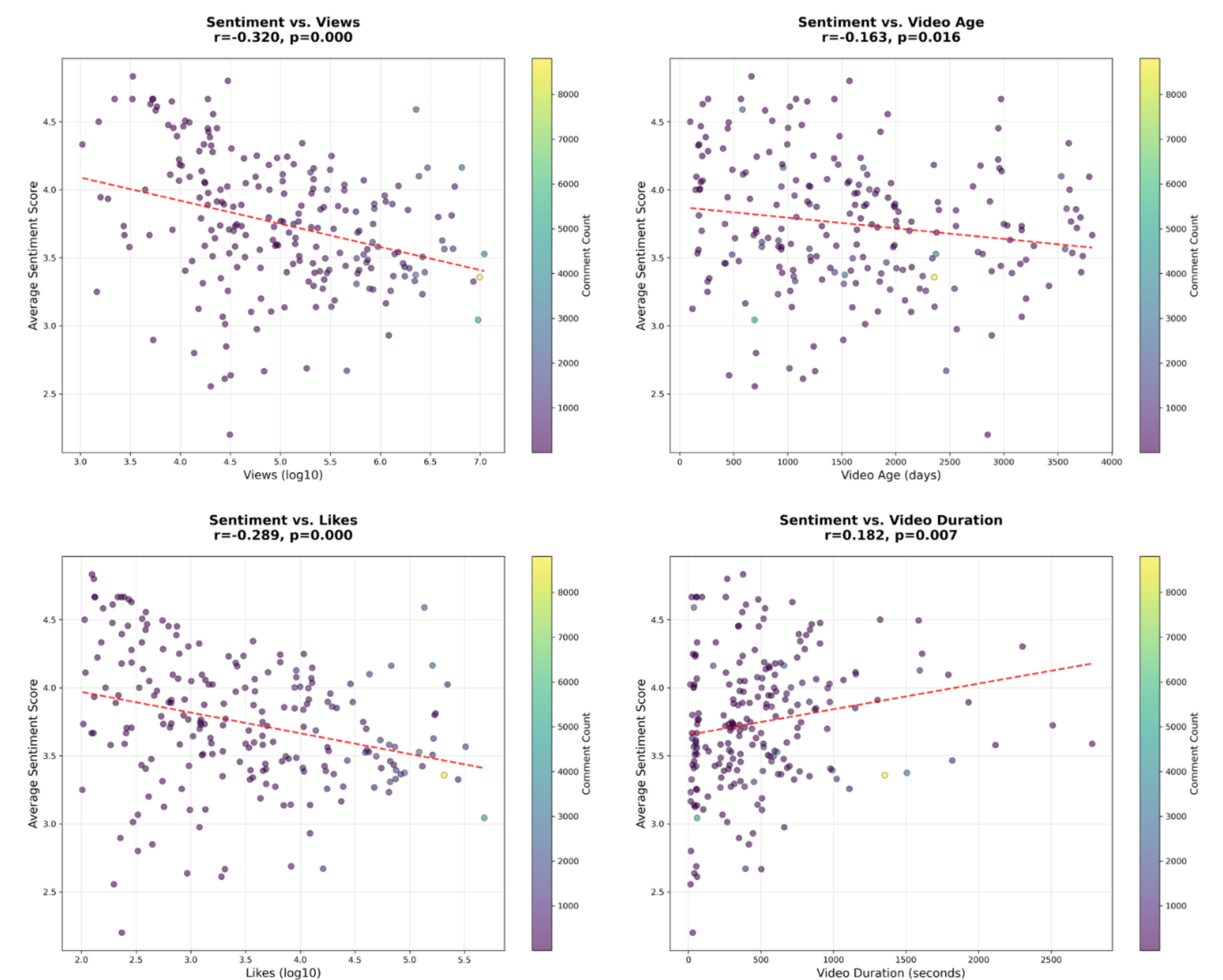


Figure 2. Associations between audience sentiment and video popularity characteristics. Scatter plots showing relationships between average comment sentiment and view count, like count, video age, and video duration for SOVTE-related videos. Dashed lines indicate fitted linear trends, with point color reflecting comment volume. Reported Pearson correlation coefficients and p-values summarize the strength and direction of each association.

Discussion

- SOVTE content has expanded into a widely consumed digital health resource, influencing how patients engage with voice therapy outside clinical settings.
- Despite consistent use of technical language, most creators did not disclose credentials, creating a credibility gap and potential risk for unsupervised practice.
- Engagement patterns show that audiences preferred visually demonstrable and procedural techniques, rather than abstract clinical explanations.
- Creators frequently embedded instruction within narrative frameworks (e.g. transformation, struggle, success), suggesting storytelling enhances engagement and retention.
- Although overall sentiment was positive, greater video popularity was associated with more negative and polarized responses, revealing a key paradox in digital health communication.
- A clear disconnect emerged between technical creator language and experiential audience interpretation, highlighting the need for more accessible, patient-centered messaging.

Key Takeaways

- YouTube SOVTE content serves as a major source of informal information about voice therapy techniques but lacked credential transparency.
- Engagement favored visual, demonstrative content.
- Higher popularity correlated with more negative and polarized sentiment.
- A gap between technical instruction and audience experience highlighted the need for clearer, patient-centered communication.

Contact

Pinhong Wu BA,
Renaissance School of Medicine
Stony Brook University
pinhong.wu@stonybrookmedicine.edu

References

- 1 Silverman MA, Ebenhoeh A, Wu P, Jiang JJ. *Optimizing Aerodynamic Vocal Parameters by Varying Supraglottic Pressure Using "Controlled Supraglottic Pressure Phonation" in Healthy Subjects.* J Voice. 2023;39(5):1205–1212. doi:10.1016/j.jvoice.2023.03.016
- 2 Tetik-Hacıtahtiroğlu K, Düzenli-Öztürk S. *Evaluation of Immediate Effects of Straw Phonation Exercise and Determination of the Ideal Performance Time in Healthy Adults.* J Voice. 2025;39(6):1697.e11-1697.e22. doi:10.1016/j.jvoice.2023.06.005
- 3 Titze IR. *Voice training and therapy with a semi-occluded vocal tract: rationale and scientific underpinnings.* J Speech Lang Hear Res. 2006;49(2):448-459. doi:10.1044/1092-4388(2006)035
- 4 Riyaz MM, Gousalya V, Anu V, et al. *Oral Health Misinformation on Youtube - A Content Analysis.* J Pharm Bioallied Sci. 2024;16(Suppl 5):S4507-S4510. doi:10.4103/jpbs.jpbs_1038_24
- 5 Gray R, Michael D, Hoffmeister J, Lunos S, Zach S, Butcher L, Weinstein D, Misono S. *Patient Satisfaction With Virtual vs In-Person Voice Therapy.* J Voice. 2024;38(5):1088-1094. doi:10.1016/j.jvoice.2022.03.011.