

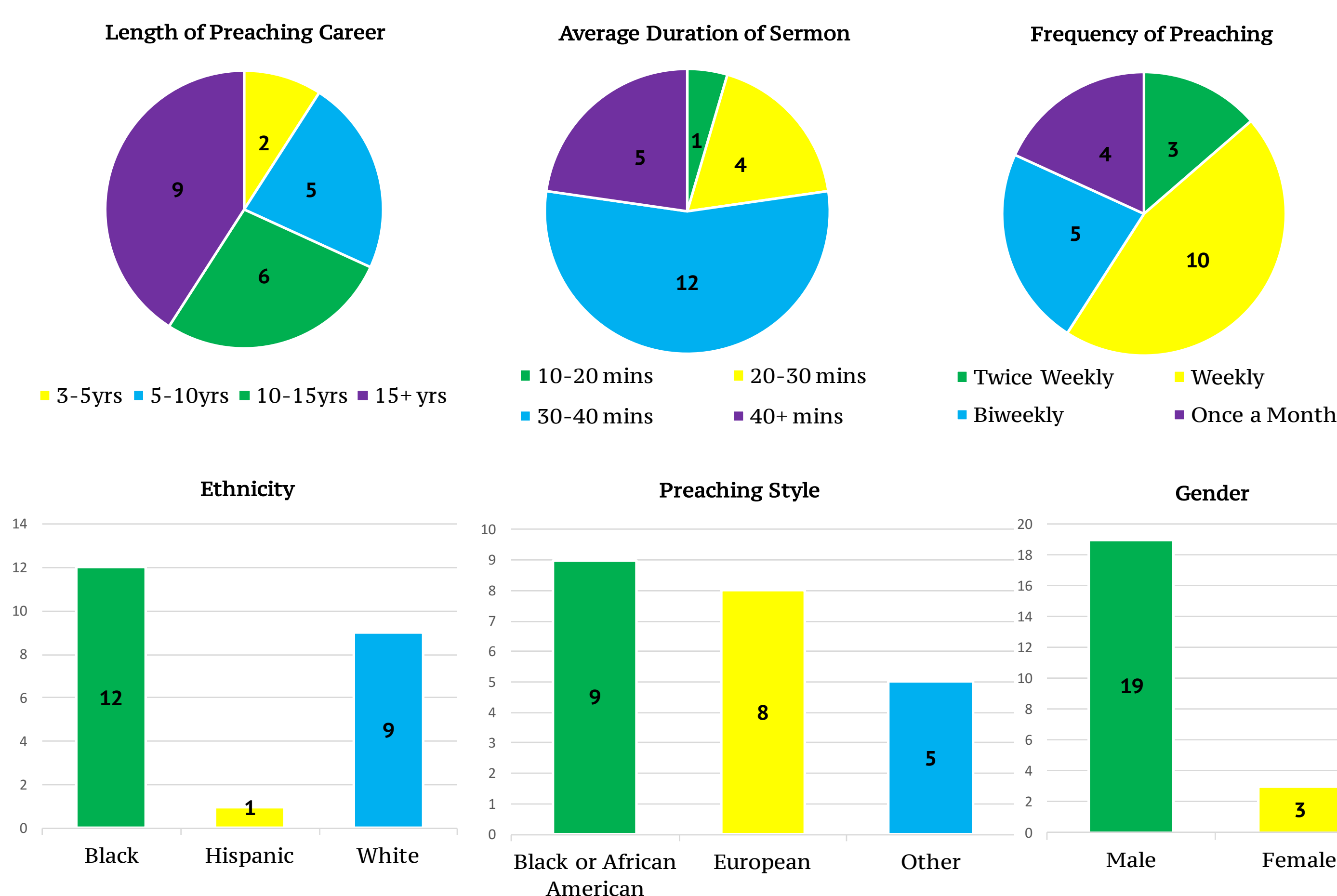
# A Comparative Analysis of the Incidence of Voice Disorders among Black and non-Black Seventh-day Adventist Preachers

## Abstract

Preachers of all cultural backgrounds are considered occupational voice users—they require a clear, dependable, and strong voice to be proficient in their career. It has been well established that all preachers are at risk for developing voice disorders; however, it is unknown as to whether Black preachers experience a greater incidence of voice disorders than others. According to K. R. Gilbert, Black preaching is characterized by longer average sermons, a melodic voice which intensifies as the sermon reaches its climax, and the need for enhanced projection over a more participatory congregation. The purpose of this study was to compare the incidence of voice disorders among Black and non-Black Seventh-day Adventist preachers to determine if cultural preaching styles influence the prevalence of voice disorders among members of that occupation.

## Methodology

- Researchers used a purposive sample of participants recruited from the Seventh-day Adventist Theological Seminary at Andrews University and from SDA churches in the surrounding area.
- Only preachers who have experience preaching at least twice a month for at least three years were included.
- In total, 22 Seventh-day Adventist preachers participated in the study.
- Each participant filled out an eligibility survey with the following information:



## Methodology Contd.

- Participants completed the Glottal Function Index which analyzed the participants' perceptions of dysfunction in their own voices.
- Clinicians collected acoustic measures from each participant using the Kay PENTAX Computerized Speech Lab Model 4500 to obtain quantitative data.
- Measures included:
  - Maximum Phonational Frequency Range
  - Jitter
  - Shimmer
  - Sustained Phonation
  - Noise to Harmonics Ratio
  - Average Intensity
  - Average Fundamental Frequency
- Each measure was obtained 3 times and an average of the 3 results was reported.

## Results

- Upon analyzing the raw data, there were no statistically significant differences between the two groups except for the measure of Sustained Phonation

Measures	Black Preachers	Non-Black Preachers
Maximum Phonational Frequency Range Average	328.18625	329.29500
Jitter	1.13983	.80640
Shimmer	.30242	.27020
Sustained Phonation	13.9350	22.8000
Noise to Harmonics Ratio	.13608	.13220
Average Intensity	49.9892	50.3150
Glottal Function Index Score	5.00	4.90

Figure 1. Mean results of each measure for the two groups.

- A one-way ANOVA validated this assumption by finding a statistically significant difference between the means of the two groups for Sustained Phonation,  $F(2, 19) = 9.473, p = .001$
- There were no other statistically significant differences between the means of the measures for the two groups.

## Results Contd.

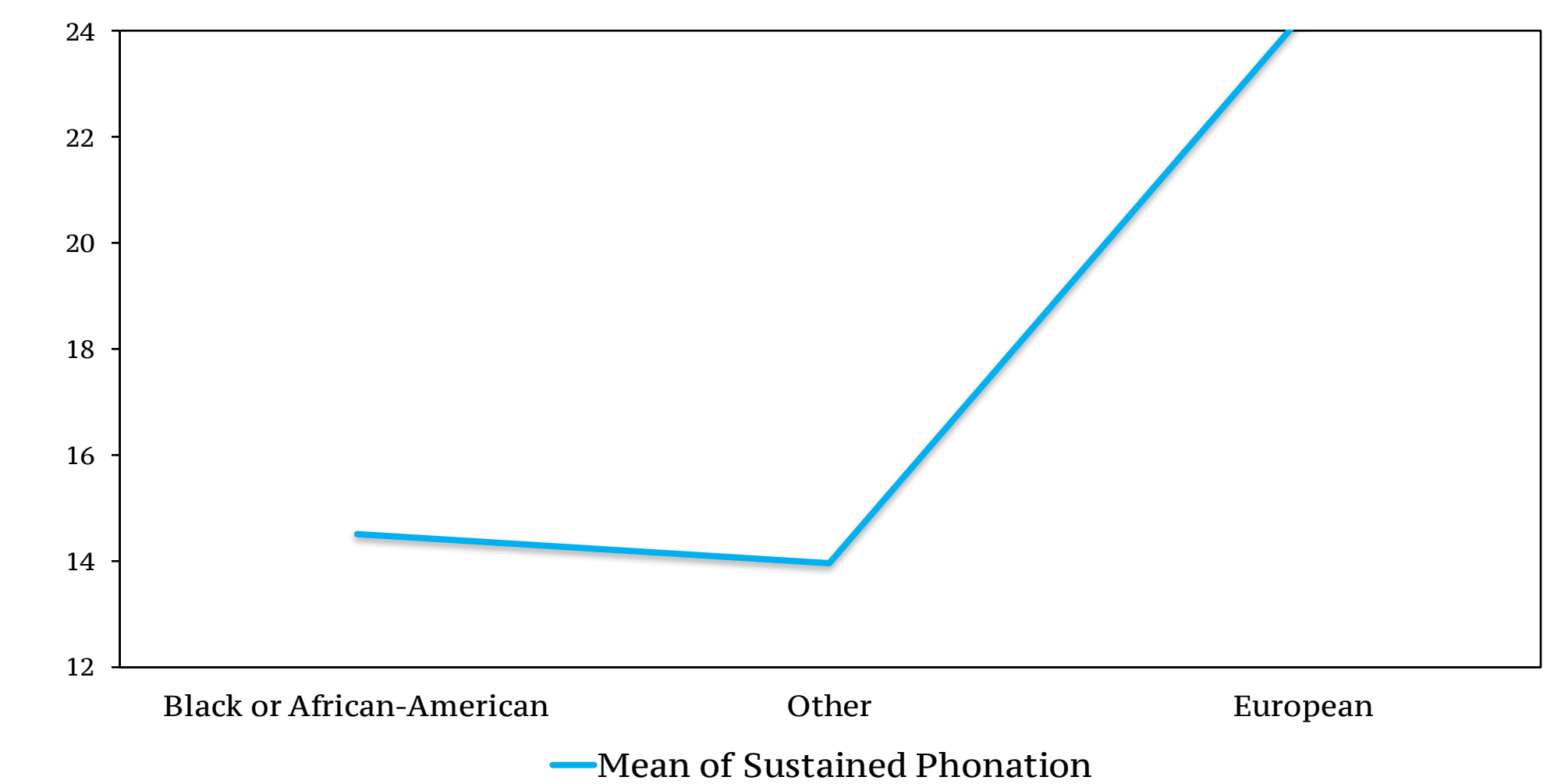


Figure 2. Depiction of the impact of style on the mean of Sustained Phonation

- Multiple regression analysis was used to test if any of the demographic (e.g., ethnicity, gender, style of preaching) or voice measurements significantly predicted participants' sustained phonation. The results of the regression indicated one predictor explained 35% of the variance ( $R^2 = .384, F(1, 19) = 11.859, p = .003$ ). It was found that sustained phonation was strongly predicted by ethnicity ( $\beta = -.620, p = .003$ ).

## Discussion

After analyzing the data, the only statistically significant difference between Black and non-Black preachers the researchers found was the measure of Sustained Phonation. Further research should be conducted to discover why this measure differed between the two groups and to understand how some of the demographic measures impacted the data. Some limitations of this study include small sample size and participants' understanding of self-reported data. By observing individual data and comparing the measures to normative values, we found several members of each group that might be at risk for developing voice disorders. This validates the research that asserts that preachers of all cultural backgrounds are at risk for developing voice disorders because of their occupation.

## Selected References

- Reed, J. P., & Sims, H. S. (2017). Comparative Analysis of Characteristics of Voice Use Amidst Clergy. *Journal of Voice*, 31(2), 256.e7-256.e11. doi:10.1016/j.jvoice.2016.06.005
- Gilbert, K. R. (2011). *The journey and promise of African American preaching*. Minneapolis: Fortress Press.