Supplemental Data:

Sensitivity analysis for UES pressure by phonation type: Outlier omitted

There was a significant difference in UES pressure depending on type of phonation produced, ($F(3,87)=11.27$, $p<0.0001$). In post-hoc testing corrected for multiple comparisons, UES pressure was significantly higher during periodic voicing in connected speech than whispered connected speech (mean difference=19.44mmHg, p=0.0013) with large effect size (Cohen's *d*=1.1, 95% confidence interval=0.82, 1.51), and were also significantly greater during creak in connected speech than in whispered connected speech (mean difference=23.9mmHg, p<0.0001) with a large effect size (Cohen's *d*=0.91, 95% confidence interval=0.63, 1.37). UES pressure during periodic voicing in connected speech was significantly greater than during modal /a/ (mean difference=19.52mmHg, p=0.0013) with a moderate effect size (Cohen's *d*=0.59, 95% confidence interval=0.21, 1.07), and was also significantly greater during creak in connected speech than during modal /a/ (mean difference=23.98, p=0.0001) with moderate effect size (Cohen's *d*=0.56, 95% confidence interval= 0.2, 1.04). There were no significant UES pressure differences between whispered speech and modal /a/ (mean difference= 0.08mmHg, p=0.99, Cohen's *d*=0.01 (95% confidence interval= -0.44, 0.32)), or between periodic voicing and creak during connected speech (mean difference=4.46mmHg, p=0.813, Cohen's *d*=0.25 (95% confidence interval=-0.1, 0.55).

Sensitivity analysis for relationships between UES pressure and CPPs: Outlier omitted

There was no significant relationship between CPPs and UES pressure during modal /a/, controlling for resting UES pressure, sex, and age (β=-5.18, t=-2.02, p=0.054).

There was a significant relationship between CPPs and UES pressure during the sentence loaded with hard glottal stops, controlling for resting UES pressure, sex, and age. For every 1dB increase in CPPs, there was a 10.12mmHg decrease in UES pressure (β=-10.12, t=-2.45, p=0.02).

There was no significant relationship between CPPs and UES pressure during the all-voiced sentence, controlling for resting UES pressure, sex, and age (β=-6.35, t=-1.95, p=0.06)

Sensitivity analysis for relationships between UES pressure and LHR: Outlier omitted

There was no significant relationship between LHR and UES pressure during modal /a/, controlling for resting UES pressure, sex, and age (β=-0.12, t=-0.11, p=0.91).

There was no significant relationship between LHR and UES pressure during the sentence loaded with hard glottal stops, controlling for resting UES pressure, sex and age (β=0.14, t=0.063, p=0.95).

There was no significant relationship between LHR and UES pressure during the all-voiced sentence, controlling for resting UES pressure, sex, and age (β=2.98, t=1.81, p=0.082).