

Comparison of Tongue Muscle Performance in Singers and Non-Singers

Alexus Cossell, Brianna Caldwell, Ryan Z. Amick, and
Heidi A. VanRavenhorst-Bell

Department of Human Performance Studies, Wichita State University

Healthy tongue muscle performance is necessary for performing daily tasks such as speaking, swallowing, and maintaining upper airway patency. With age, tongue muscle performance begins to decline and leads to an increased risk of tongue muscle disorders such as dysphagia and sleep apnea. Approximately 68% of adults in care facilities have dysphagia and current rehabilitative techniques provide limited restoration. The purpose of this pilot study was to determine whether individuals who are trained singers display a healthy measure of tongue muscle performance, thereby offering a favorable complimentary rehabilitation method. **Methods:** Thirty (N=30) adult participants were grouped as trained singers (n=15) and non-singers (n=15) and further age-grouped into young adult (18-39 years) and older adult (40-70 years). Participants' tongue strength (TS) and endurance (TE) (anterior and posterior) were measured using the Iowa Oral Performance Instrument. **Results:** A significant difference in anterior TE ($p = .05$) was found with older adult trained singers producing a greater anterior TE than all other groups, regardless of age. **Conclusion:** Findings suggest that singing may beneficially impact tongue muscle performance measures. Singing, thereby, may serve as a complimentary therapy to current rehabilitative methods and further provide a low-cost alternative to health care.