

An Acoustical Comparison of Western Classical and Musical Theater Male Singers-in-Training

Background: While much attention has been directed to the female Musical Theater (MT) voice, relatively little focus has been given to the male MT singer as compared to his Classical counterpart, with even less attention directed to the male MT singer-in-training. Furthermore, recent literature indicates that singing voice research is in need of an expanded set of protocols for acoustic analysis. Spectral moments offer the potential to improve our understanding of the differences between various styles of singing.

Objective: The purpose of this study is to examine and compare the acoustical characteristics of male singers in training in both Classical ($n = 15$) and Musical Theater ($n = 15$) genres through a specific analysis of spectral moments (spectral mean, standard deviation, skewness, kurtosis).

Method/Design: This study attempts to replicate aspects of the methods used by Bourne, Garnier, and Samson (2016) in the *Journal of the Acoustical Society of America*. Collegiate male singers-in-training for MT or Classical genres were asked to sustain a note for three seconds at four frequencies up to their highest comfortable range. Each singer produced these notes on two vowels [e] and [ɔ] for a total of three times each per stylistic quality. Classical singers employed registrational and resonance strategies typical of operatic singing while MT singers used the stylistic qualities of belt/“contemp” and legit. The middle three tokens of each participant were analyzed and an LTAS of the middle one second of each token was extracted. A Praat script was then implemented to compute various spectral moments for each token.

Results: Results are reported in light of creating a clear picture of the spectral moments for both the MT and the Classical male singers-in-training in order to understand acoustically what is heard perceptually by voice teachers, conductors, and audiences. As data collection is ongoing, specific results are not reportable at the time of this writing.

Conclusion: By investigating spectral moments in relation to these two different singing styles, this study may bring to light potential acoustic correlates to stylistic differences between MT and Classical male singing and could provide a foundation for future study of the biomechanical and physiological causes of said stylistic differences. Pedagogical considerations could embrace this newer method of acoustical examination in light of resonance qualities and registration.

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