Factors Associated with Singers’ Perceptions of Choral Singing Wellbeing

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Background

Choral Singing

- Prevalence of Choral Singing
- World Choir Games, Cincinnati 2012
- Choral vs. Solo Singing
  - concern for solo singers
Background

Choral Singing Behaviors

• Suboptimal Vocal Behaviors
  – too softly for blend
  – too loudly to carry section
  – outside pitch range

• Vocal Warm-Ups (WU)
  – determine prevalence of vocal WU
  – observe relationship: WU and vocal fatigue

Background

Singing and Improved Wellbeing

• WHO definition of health

• Psychological and Physical Benefits
  – Cohen et al, 2006
  – Clift and Hancox, 2001

• Psychoneuroimmunological Benefits
  – Kreutz et al, 2004
  – Gale et al, 2012
Purpose

(1) To identify relationships between typical suboptimal vocal behavior and vocal fatigue

(2) To evaluate the relationships between suboptimal choral singing behavior and singing-related wellbeing

(3) To determine if a preference for solo singing has any impact on reported singing technique

Methodology

• Participants: 196 Attendees
  – 143 Female, 53 Male
  – Age Range: 10-70
    • Mean: 24
    • Mode: 17

• Measure: Self-Report Questionnaire

• Analysis: Pearson correlations, Chi square
Results

Purpose 1: Suboptimal Vocal Behavior and Vocal Fatigue

- Suboptimal Singing and Vocal Fatigue
  - 31% reported vocal fatigue
    - $r = 0.34, p < 0.0001$
  - Secondary Analysis
    - 35% sing outside pitch range
      - $r = 0.34, p < 0.0001$
    - 51% sing too loudly
      - $r = 0.23, p = 0.0015$
    - 52% sing too softly for blend
      - $r = 0.13, p = 0.0666$
  - Vocal Warm-Ups
    - 81% reported feeling warmed
    - Vocal WU and vocal fatigue: $r = -0.13, p = 0.0795$

Purpose 2: Singing and Wellbeing

- Suboptimal singing and wellbeing
  - Moderate negative correlation
  - $r = -0.32, p < 0.0001$ (N=141)
- Wellbeing and vocal fatigue
  - Moderate negative correlation
  - $r = -0.37, p < 0.0001$ (N=141)
Results

Purpose 3: Choral Singing and Solo Singing

• Overall preference for choral singing
  – $\chi^2(1, N=196) = 22.93$, $p < 0.0001$
  – 67.37% preferred choral singing
  – 19.47% preferred solo singing
  – 13.16% no preference

• Solo singers in the choral setting
  – 50% of participants
  – 72% of these use different technique
  – Sing both styles and use different technique:
    • $\chi^2(1, N=196) = 13.66$, $p = 0.0002$

Discussion

• Suboptimal singing and vocal fatigue
  – Correlated in combined statistical analysis
  – Absence of correlation
  – Limitation: wide scope of subjects

• Suboptimal singing and wellbeing
  – Preliminary data
  – Wellbeing restricted by vocal health
  – Limitation: latent variables

• Choral singing and solo singing
  – Preference for choral singing
  – Solo singers reported using different technique
  – Limitation: unable to account for effect on wellbeing
Limitations

- Psychometrics under development
- Findings reliant on participant awareness
- Large heterogeneity of subject pool
- Unmeasured factors

Directions for Further Research

- Perceptions of professional solo singers
- Vocal health as a factor of wellbeing
Conclusions

- Suboptimal choral singing behaviors may result in vocal fatigue
- Suboptimal choral singing negatively affects choral singing wellbeing
- Differences in choral vs. solo singing contribute to different technique

References

Thank you!