The influence of subjective factors on the evaluation of singing voice accuracy

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AIMS

In the lab
• Music experts’ evaluation is highly correlated with objective measurements of vocal accuracy.¹
• Judges’ rating is explained by two criteria:
  - the respect of intervals along the melody
  - the respect of tonality.

Out of the lab
• Numerous factors can influence the judges’ rating of a music performance.²
• Effect of the jury’s expectations (i.e. music level).³
→ Subjective factors which influence the evaluation of singing voice accuracy?

METHODS

Participants
• 31 music students of Music Conservatory (18 first- and 13 second-year students)
  - Performance of a melody during their music examination
  - Self-evaluation: enjoyment of singing, anxiety level (9 points scale)
• 4 expert judges
  - Evaluation of the global pitch accuracy: 1----2----3----4----5----6----7----8----9
    very inaccurate  very accurate

Objective measurements of vocal accuracy (in cents)⁴⁻⁵⁻⁶
Pitch extraction (AudioSculpt and OpenMusic, Ircam, Paris, France) and computation of errors

Statistical analysis
1. Selection of the participants in order to observe no difference (jury’s rating, vocal accuracy and self-evaluation) between the two music levels
2. Relationship between the jury’s rating and the variables for each music level

RESULTS

1. • Mean (SE) for the judge’s rating, for the vocal accuracy measurements and for the self-evaluation according to the music level of the participants (excluding 5 students)

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<thead>
<tr>
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<th>Judge’s rating</th>
<th>Vocal accuracy measurements</th>
<th>Self-evaluation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SE)</td>
<td>Mean (SE)</td>
<td>Mean (SE)</td>
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<tr>
<td>First-year students</td>
<td>6.97 (0.29)</td>
<td>17.05 (1.45)</td>
<td>20.06 (2.45)</td>
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<tr>
<td>Second-year students</td>
<td>7.04 (0.36)</td>
<td>28.37 (5.10)</td>
<td>29.22 (5.49)</td>
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</tbody>
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• U Mann-Whitney: no significant differences between the two music levels p > .05

2. • Relationship between the judge’s rating and the variables observed for each music level

CONCLUSIONS

Several relationships between the judge’s rating and the variables according to the music level of the music students:
• First-year students: high jury rating when the student enjoys singing
• Second-year students: high jury rating when the student sings accurately or perceives a low anxiety level
→ Preliminary study with a promising method for the investigation of subjective factors, which influence the vocal assessment in an ecological context and to better understand the music evaluation process.

REFERENCES

5th annual Advancing Interdisciplinary Research in Singing meeting, Toronto, Canada (August 11th - 13th 2013)