

Evaluation of pitch accuracy in solfeggio examinations: What about non-musical variables?



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BACKGROUND

In the lab

- Music experts are reliable and their evaluation is highly correlated with objective measurements of vocal accuracy.¹
- Judges' rating is explained by two musical criteria:
 - intervals along the melody
 - tonality.

Out of the lab

- Numerous factors influence the judges' rating of a music performance.^{e.g.,2,3}
- Rating depends on the purpose of the examination.²

AIMS

In solfeggio examinations

1. Judges' reliability and objectivity
2. Musical criteria and non-musical variables predicting the judges' rating

METHODS

Participants

- 21 music students of Music Conservatory
 - 11 men, 10 women
 - 17-38 years old ($M = 22.24$, $SD = 5.44$)
 - First ($n = 14$) and second music level ($n = 7$)
- 3 music experts in the jury (working in the institution since more than 10 years)

Material



Evaluation by the judges
0----1----2----3----4----5
Very inaccurate Very accurate

Objective evaluation⁴
Contour errors
Pitch interval deviation
Tonal centre deviation

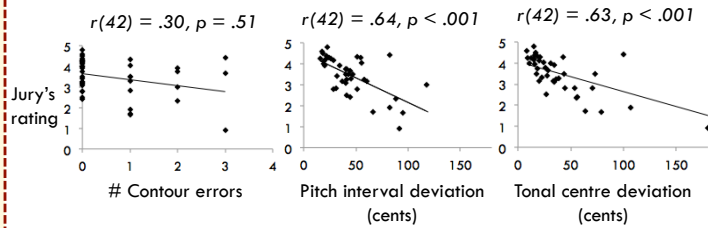
Procedure

- Students perform the two melodies in music examinations
 - formative purpose (January)
 - certificative/summative purpose (June)
- Performances evaluated regarding pitch accuracy by
 - computer-assisted method
 - judges

RESULTS

1

- Pairwise correlations between the 3 judges
→ $M(r) = 0.89$ ($SD = 0.01$, $p < .001$)
- Relationship between Jury's rating and Objective evaluation



Nb: same pattern of results with partial correlations to control "purpose", "gender", "age", and "music level" variables

2

- Regression analysis

	Formative examination	Summative examination
Musical criteria only	56% Contour errors Pitch intervals Tonal centre ($\beta: .75$)	31% Contour errors Pitch intervals ($\beta: .56$) Tonal centre
Musical criteria and non-musical variables	67% Contour errors Pitch intervals Gender ($\beta: .34$) Tonal centre ($\beta: .71$) Age Music level	46% Contour errors Pitch intervals ($\beta: .43$) Gender ($\beta: .41$) Tonal centre Age Music level

CONCLUSIONS

- Judges are **reliable** and provide **objective** ratings
- **Musical criteria** predict the jury's rating
 - Tonal centre deviation for the formative purpose
 - Pitch interval deviation for the summative purpose
- **Gender** influences the jury's rating
 - It is better to be a male music student...
- **Promising and reliable method to better understand music evaluation in ecological contexts.**

Acknowledgments

We thank the "Centre Henri Pousseur" of Liège, Guillaume Videlier, David Magis, and Julia Helena for the technical support, Marie-Hélène Wassong and Dominique Morsomme for their help with the data collection, the Royal Conservatories of Belgium, the students and their music teachers for their kind participation.

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