

# Primary assessment of amateur vocalists

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## Lower and Upper Reserve, Reserve Index

The difference between the upper limit of the tessitura and the highest pitch in the VRP, expressed in semi-tones, has been defined as 'upper reserve' (UR); the difference between the lower limit of the tessitura and the lowest pitch measured with the VRP has been defined as the 'lower reserve' (LR).

The 'reserve index' (RI) has been defined as the relation between upper and lower reserve:

$$RI = (UR - LR) / (UR + LR)$$

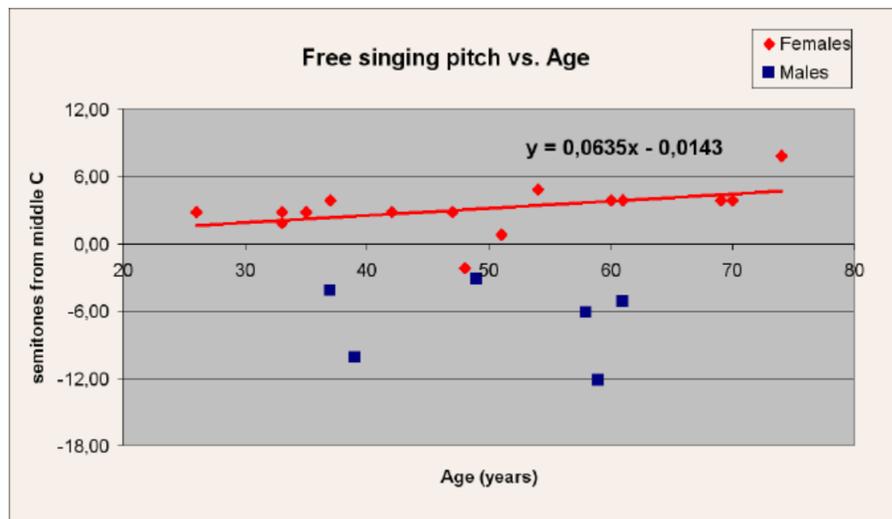


Fig. 1: Typical laryngeal configurations for all attempted phonation types (female subject MM), as revealed by laryngeal videostroboscopy. The images were taken at the moment of maximal vocal fold closure.

## Results

In average, the sopranos were 10 years older than the altos (overall average age: 49,7 years).

The average physiologic voice range was 37,9 semitones (min 31, max 45).

Older females had less physiologic voice range, but their habitual singing was generally higher. With the exception of the sopranos, all voice categories had more upper reserve than lower reserve. Average reserve index per voice category: soprano - 0,36; other voice categories: 0,11 - 0,54.

The reserve index was inversely related to age (  $RI = 0,855 - \text{age} * 0,013$  ).

## Discussion

In the examination of high tessitura physiologic voice range, a relatively low reserve was caused by ins...

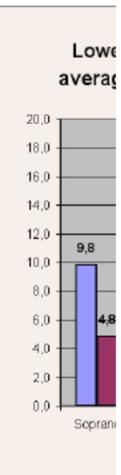


Fig. 2: Typical VKG images that the 'resonant falsetto' VKG images were recorded. Total time displayed: ...



Table 2: Observations of the cartilaginous membranous position of the 'falsetto' to 'quasi-falsetto'.

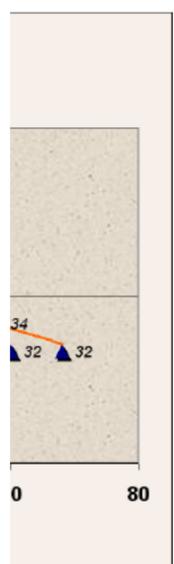
## Acknowledgements

This research was funded by the ...

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