When vocal training masks structure: Individual differences in visual aspects of sung interval size

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Vocal training typically emphasizes aspects of production that are important to pitch and voice quality such as vocal control and breathing. By contrast, visually available aspects of production tend to receive far less attention. Nonetheless, recent research suggests that visual aspects of performance are relevant to audience experience, influencing perception of emotion and structure. With regard to the latter, a linear relation has been demonstrated between the size of sung melodic intervals and the extent of head movement, eyebrow lifting, and mouth opening. Observers track these visually available aspects of song production, and they influence judgments of interval size in a manner that is pre-attentive and automatic. We wondered whether the emphasis on vocal control in classical training might somehow interfere with visual aspects of performance. We asked classically trained and competent amateur vocalists to produce ascending melodic intervals ranging in size from unison to octave. Participants were asked to make estimates of interval size based on observation of visual-only recordings. Accuracy of estimates was higher for intervals that were produced by the untrained group. This provocative finding may have implications for vocal pedagogy.

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