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Visual Gestures: Perceptual costs and benefits in the performance of live music

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Background

Previous research has demonstrated percussionists use visual gestures to alter perceived note duration, shifting perception to align with the performer intent rather than acoustic reality (Schutz and Lipscomb, ICMPC8). With respect to duration, while percussionists are unable to control the sound of the note, visual information allows for the control of the way the note sounds. This demonstrates vision plays an important role in musical performances. However, it remains unclear whether this gesture has any negative ramifications.

Aims

This study aims to investigate the costs (decreased detection ability) vs. benefits (ability to create control perceived note length) of percussionists' use of gestures in live musical performances.

Method

Video recordings of an internationally renowned solo marimbist were presented to subjects both with and without visual gesture information. Subjects were asked to rate auditory note duration independent of visual gesture.

Results

As previously reported, vision significantly influenced duration ratings despite instructions to subjects to ignore visual information. However, using d' as a gauge of sensitivity to acoustic differences in note length we report a new finding showing subjects were more accurate at detecting differences between the tones when presented without visual information. This contradicts generally reported results of increased sensitivity under audio-visual conditions due to the integration of sensory information.

Conclusions

Visual gesture information was again shown to have a role in music performances - in effect it becomes an important dimension for musical communication. However this added control comes at a steep price. While enhancing performer control over the perceptual experience, the gesture decreases listener sensitivity to variance in note length. Implications of these results will be discussed, as well their impact on performance and listening practice.

Key words: Sensory integration, Duration judgments, Visual information in music performance

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