

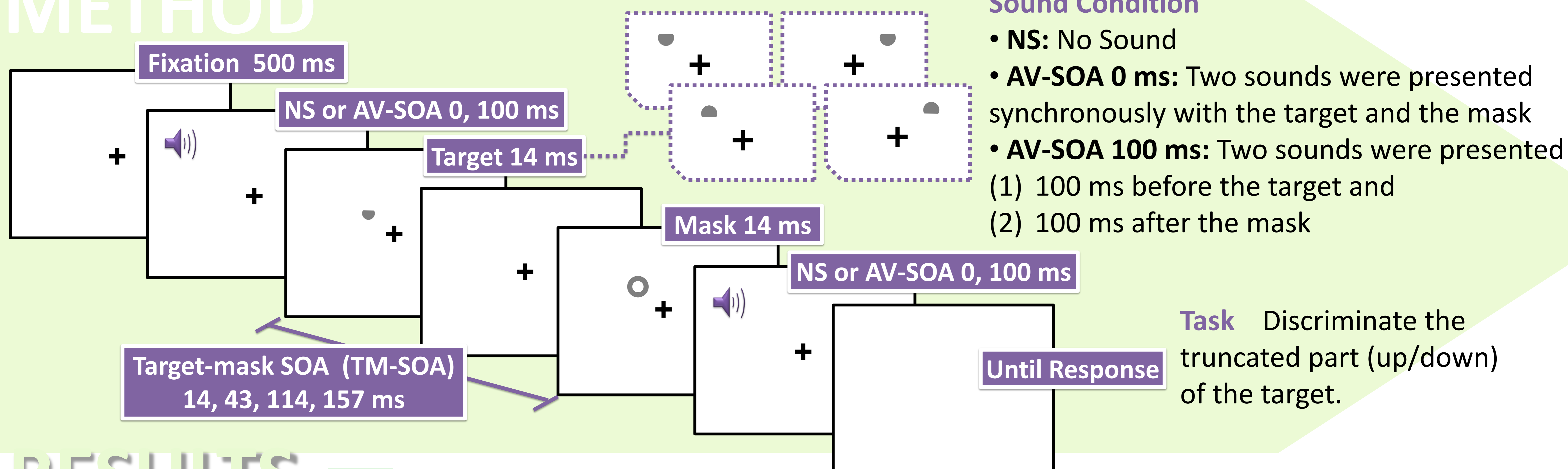
INTRODUCTION

- **Metacontrast masking (MM)** A phenomenon that target visibility is impaired by a subsequent contour-matched mask, which has been conventionally attributed to low-level visual processing.
- **Auditory effect on MM** Sound enhances target visibility in MM (Yeh & Chen, 2010, VSS).

RESEARCH AIM: How does sound reduce MM?

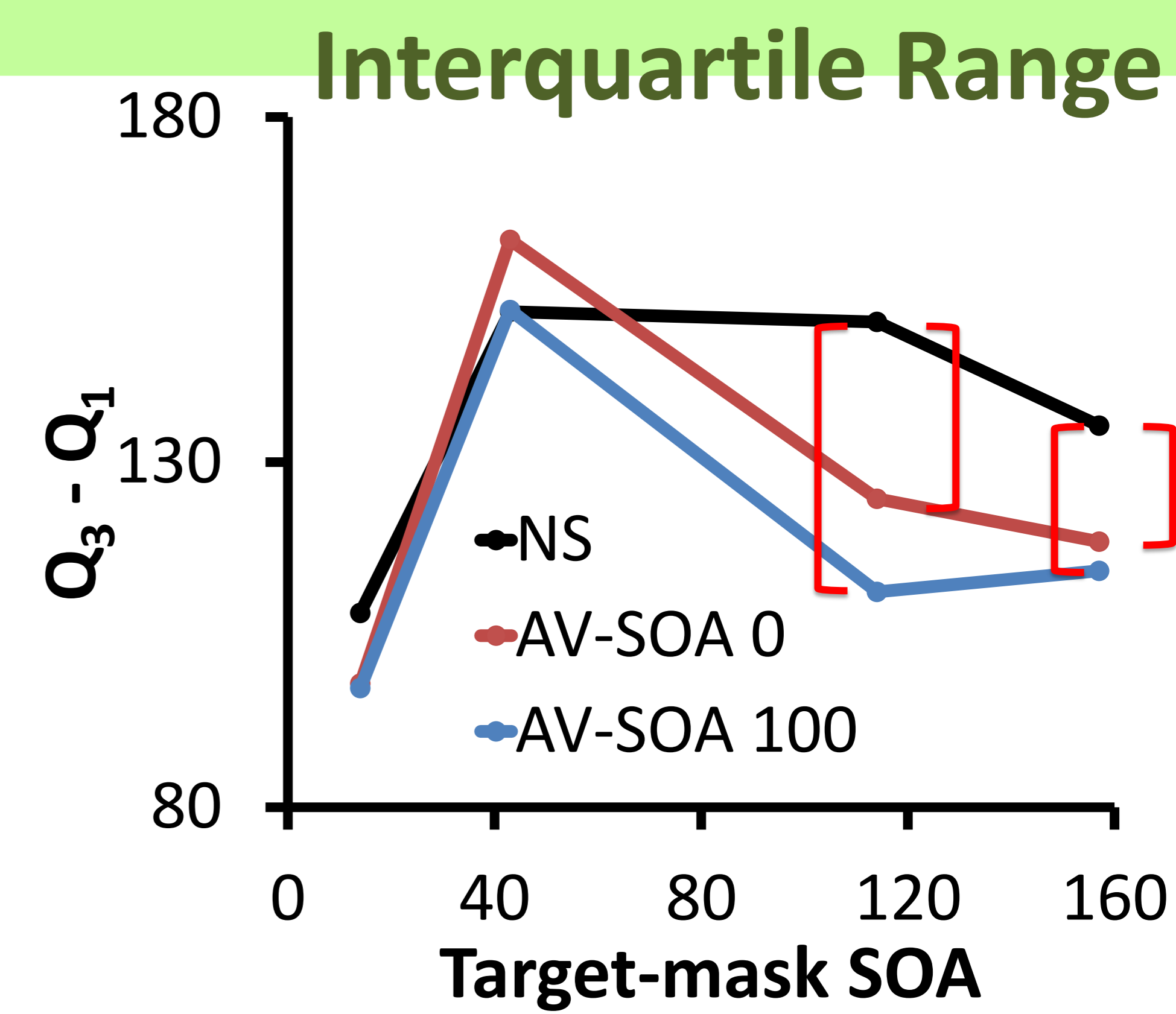
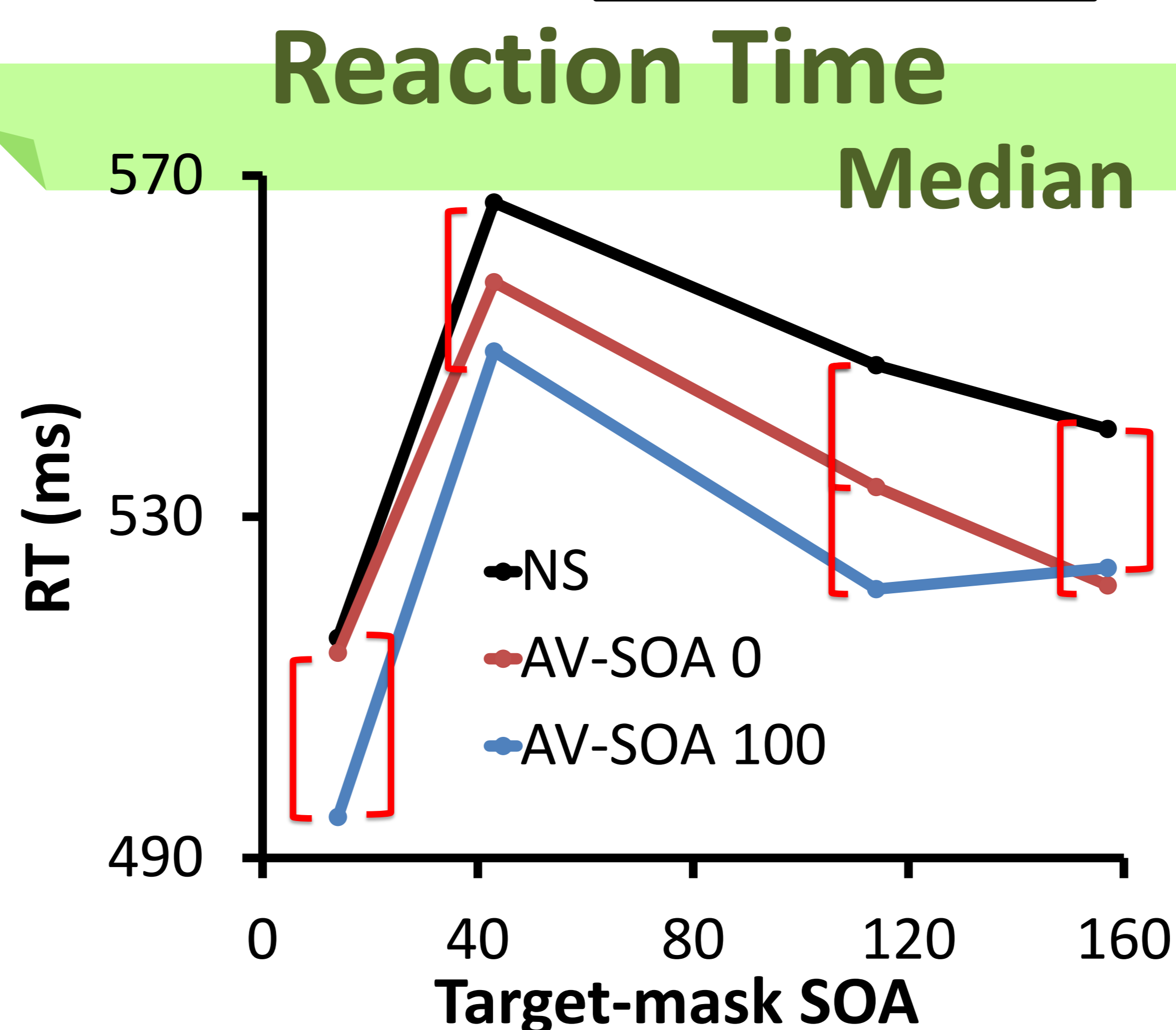
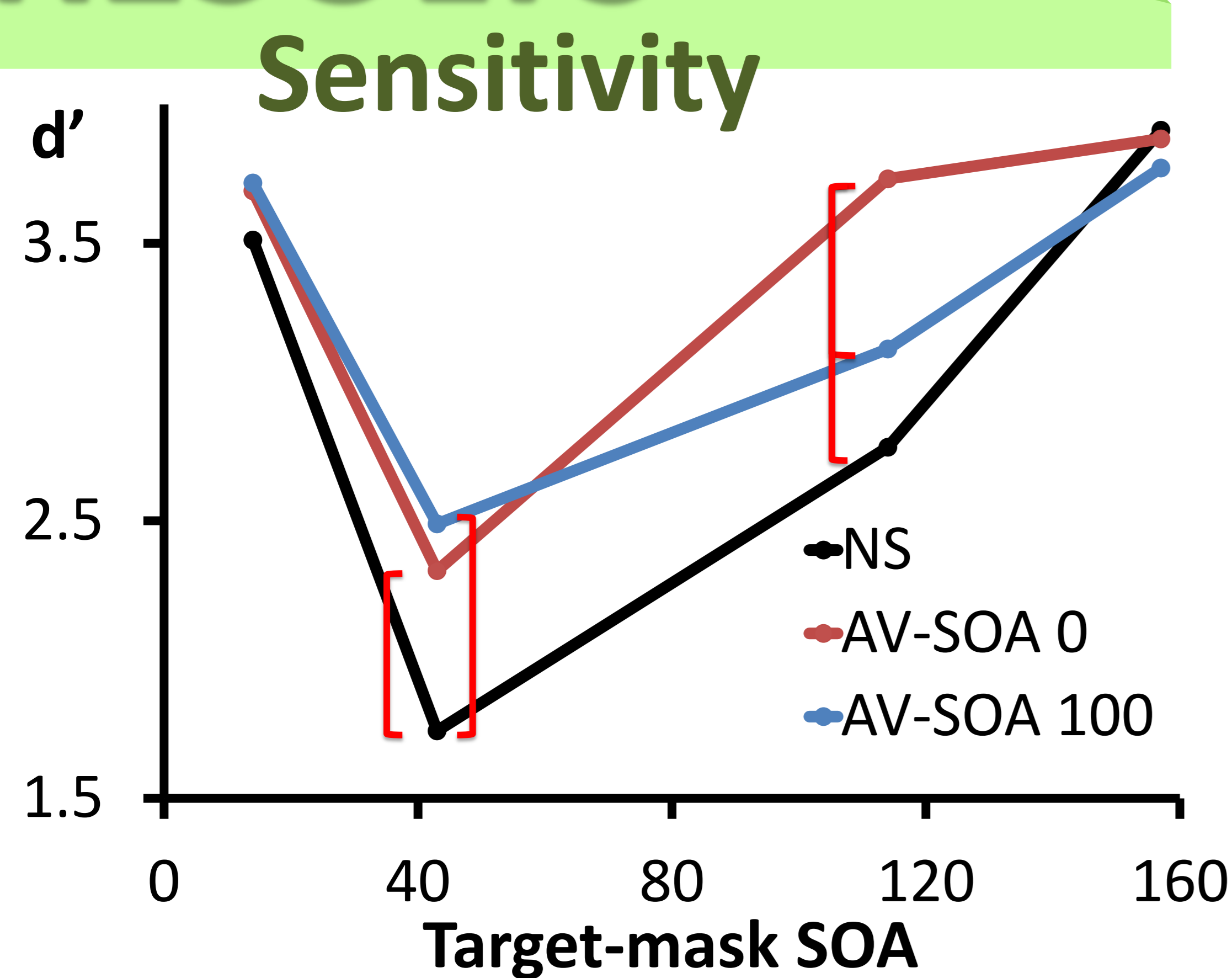
- Attention: alertness? cueing?
- Audiovisual integration:
 - Temporal ventriloquism?
 - Improvement in temporal resolution?

METHOD



RESULTS

N=31



CONCLUSIONS

Attention: Improved performance at AV-SOA 100 ms than no sound condition

- The sound-facilitatory effect on MM is not due to alertness because of selective—rather than overall—improvements.
- The higher sensitivity and shorter RTs at AV-SOA 100 ms than no sound suggests that **attentional cueing** may play a role.

Audiovisual Integration: Improved performance at AV-SOA 0 ms than no sound condition

- Had the sound-facilitatory effect on MM been caused by temporal ventriloquism (as though the TM-SOA were stretched longer temporally), a left-shifted function would have been observed.
- Shorter RT medians and narrower RT distributions at AV-SOA 0 ms than no sound may imply audio-visual integration that **improves temporal resolution** (Hairston, Hodges, Burdette, & Wallace, 2006).

Mechanism of Metacontrast Masking

- Auditory signals reduce MM through attentional cueing and audio-visual integration. The audio-visual integration in MM challenges the standard model which treats it as a purely visual phenomenon that occurs at early stages.

