



# Multisensory interactions between emotional faces and voices can be enhanced by attending to face emotion, but not to face gender



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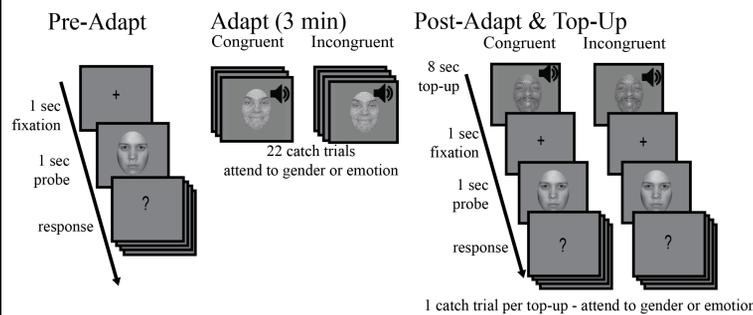
## QUESTION:

Does attention to emotion influence interactions between emotional sounds and emotional faces?

Correctly interpreting emotions is crucial for social interaction. Often, this involves multisensory information from faces & voices. We asked if emotional processing requires attending to emotion or is automatic. We used adaptation to quantify the strength of crossmodal interactions under different attention conditions.

We predicted that emotional sounds would influence the judgment of emotional faces, but only when emotion is the attended feature, and not gender.

## METHODS



**Pre-Adapt:** Judge probe face morphs as happy or angry.  
**Adapt:** View faces+crowd sounds (described in Izen et al., 2019)  
*congruent* emotions (100% happy faces+positive sounds)  
*incongruent* emotions (100% happy faces+negative sounds)

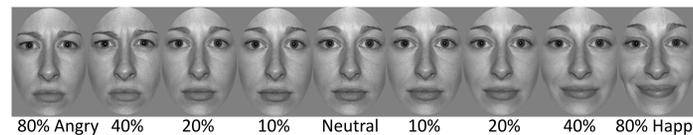
**Attend (during Adapt & Top-Up):** Judge catch trial faces  
*attend emotion:* judge face happy or angry  
*attend gender:* judge face male or female

**Post-Adapt:** Judge probe face morphs as happy or angry.

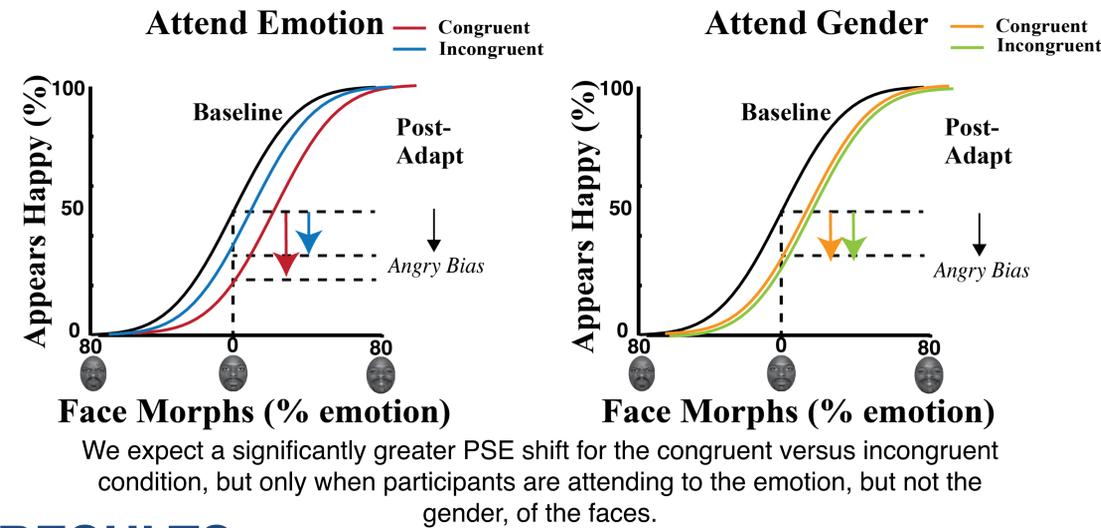
We quantified point of subjective equality pre- and post-adapt using Matlab and the psignifit toolbox.

Adapt and attend conditions varied in a between subject design.

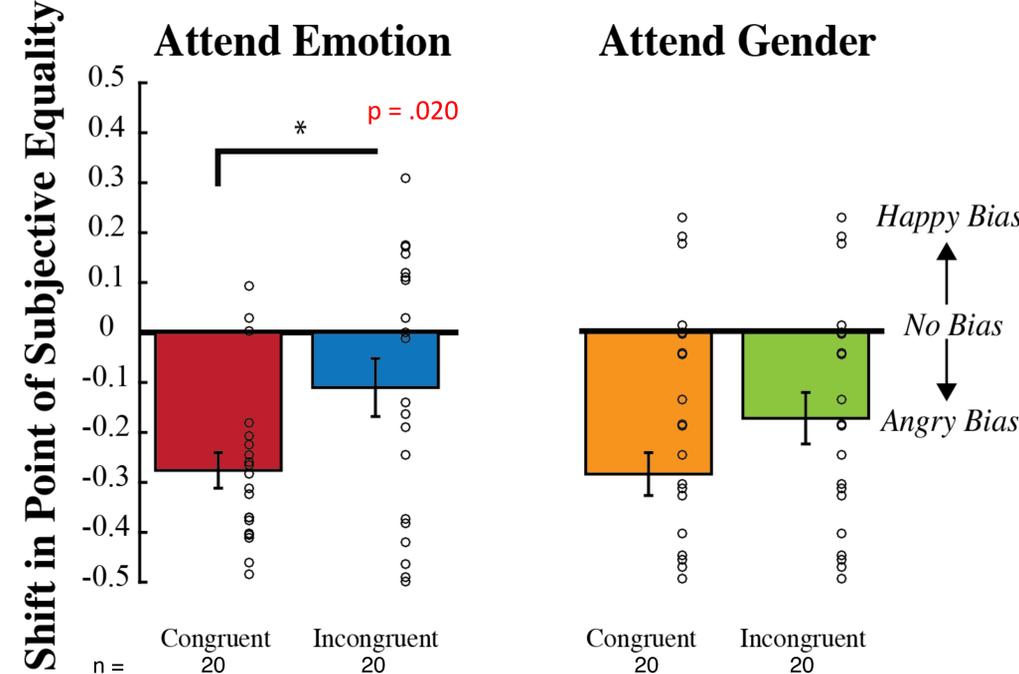
## Stimuli: Probe Face Morphs



## PREDICTIONS



## RESULTS



	Caucasian	Hispanic	Black/African American	Asian	Multiracial	Not Specified
Male	14	1	1	6	1	2
Female	18	9	6	9	3	7
Other	2	0	0	0	0	0
Not Specified	0	0	0	0	0	1

## CONCLUSION:

Emotional sounds influenced the perception of emotional faces only when participants attended to the emotion, but not the gender, of the faces

After adapting to happy faces we observed:

1. An overall negative perceptual shift (angry bias), across all adapt conditions.
2. A significant difference in perceptual shifts after adapting to congruent vs incongruent information in the ATTEND EMOTION condition.
3. No significant difference in perceptual shifts after adapting to congruent vs incongruent information in the ATTEND GENDER condition.
4. It remains to be seen if attentional effects are similar when task difficulty is accounted for.

## REFERENCES

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