Cross-modal adaptation to emotional information: Influences on the magnitude and rate of perceptual change

Anh Phan, Sarah Izen & Vivian M. Ciaramitaro
Psychology Department, University of Massachusetts Boston, Boston, MA

INTRODUCTION

Faces convey a wide variety of information such as gender, ethnicity or emotion. Given that perception of emotional state is imperative for social interactions, we examined how an emotion we hear influences an emotion we see. More specifically, we tested how the valence of an auditory emotion and whether it matched the valence of a visual emotion altered the perceived emotion in a face.

We hypothesize that: (1) Adaptation to congruent visual and auditory emotions should yield stronger effects. (2) Larger magnitudes and faster rates of change, compared to incongruent emotions.

METHODS: FACE ADAPTATION

To date, we have recruited 56 female participants (18-27 year olds) from the University of Massachusetts Boston. All participants are first run in a baseline condition to determine each participant’s point of subjective equality (PSE) or individual neutral point for the visual emotional content of a face. We then adapted participants to either congruent or incongruent visual and auditory stimuli and had them re-judge the concurrent sound is the opposite of the emotion of the face (incongruent: for example, happy faces and negative crowd sounds).

Test faces were created by morphing a fully affective angry or happy face with the same face morphs to determine the change in their PSE after adaptation relative to their unique baseline.

Subjects were adapted to emotional information: visual stimuli (15 male and 15 female images, happy or angry) and auditory stimuli (15 negative and 15 positive crowdsounds). Stimuli were congruent, matched in emotional valence (happy faces and positive crowd sounds) or incongruent, of opposite valence. Test faces were created by morphing fully affective angry or happy face with the...