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Sensitivity to musical emotion: Effects of gender and familiarity

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The primary caretaker hypothesis (Babchuk et al., 1985) can explain why women are more sensitive than men to emotional facial expressions (Hampson et al., 2006) and unpleasant visual events (Kring & Gordon, 1998). We ask how gender interacts with familiarity in the case of musical stimuli.

Familiarity influences musical appreciation, such as ratings of preference (Peretz et al., 1998) and pleasantness (Ritossa & Rickard, 2004). Women are more sensitive to familiar aversive musical stimuli in psychophysiological but not in psychological measures (Nater et al., 2006). In a familiar musical style, skin conductance responses (SCRs) may be stronger for stimulating (fear and happiness) than for relaxing (sadness and peacefulness) emotions (Khalfa et al., 2002). Familiarity and liking tend to be associated with joy, calm, and fun, whereas foreignness and dislike may be associated with anger, madness, and fear (Parncutt & Marin, 2006).

We compared SCRs with subjective ratings of emotion, both within and across cultures. Stimuli were in three instrumental styles: western tonal, western atonal and classical traditional Persian. First, the emotional content (fear, sadness, happiness, peacefulness, anger) of diverse, short Western and Persian musical stimuli was assessed by 30 professional Western and Persian musicians. We then measured event-related SCRs of 50 Western and Persian listeners and asked them to label emotions and rate familiarity, arousal, liking, and emotional intensity. We hypothesize that for both Western and Persian listeners unfamiliar music induces greater SCRs and higher self-ratings of arousal and dislike than familiar music. We expect gender differences in both physiological and psychological measures.