THE SOUNDS OF EMOTION

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Voice is an important channel of emotional communication. Humans nevertheless display different levels of expertise in conveying or masking vocal emotions. A better understanding of the control of vocal emotion would be of importance both to the field of Speech Language Pathology, where several vocal pathologies have been linked to emotional regulation problems, and to the field of singing, where vocal emotion expression and inhibition of emotions susceptible to interfere with the intended vocal quality are crucial elements to master. Here, we will describe a vocal emotional task developed by our team to elicit non-verbal vocal emotional expressions in adult participants. We will also report the results of the temporal, acoustic and phonetic analysis of the vocal samples collected in a pilot study using this task. Future implementation of the task in studies examining factors linked to level of expertise in vocal expressivity will be discussed, as well as implications for the field of SLP and singing pedagogy.

Participants: Fifteen healthy undergraduate female students were recruited for the study. *Material:* Two sets of 60 images were selected from the International Affective Picture System (IAPS). Each set was included 20 images of neutral valence and low arousal, 20 images of positive valence with moderate to high arousal, and 20 images of negative valence with moderate to high arousal. The software E-Prime paired with an AKG C420 head microphone was used to present the pictures and to record vocal responses. *Procedure:* In the spontaneous condition, participants were presented with the first set of pictures and asked to react vocally to each picture only if they felt like it. In the imposed condition, they were presented with the second set, and asked to vocalize in order to best convey the emotional valence and arousal of each image to a potential listener. The only guidance participants received regarding the type of expected responses was that they had to be vocal but not a word. *Results:* Analysis of response rate and the latency and duration of the vocal samples show that level of arousal and condition (spontaneous/imposed) had a significant impact on the vocal responses. The spontaneous condition yielded a significantly lower response rate (74%) than the imposed condition (98.3%),$\chi^2(1)=206.834$, $p<0.001$. A Welch's test for unequal variances showed that arousal is a significant predictor of response latency and duration in both conditions. The higher the arousal, the shorter were the latencies and the longer were the vocalizations (latency spontaneous: Welch's $F(4; 220.13)=28.567$, $p<0.001$, and latency imposed: Welch's $F(4,329.14)=28.039$, $p<0.001$; duration spontaneous: Welch's $F(4,228.61)=34.91$, $p<0.001$, and duration imposed: Welch's $F(4,309.68)=57.142$, $p<0.001$). Acoustic and phonetic analysis are undergoing and results will be reported during the presentation.