

Characteristics of Non-linguistic Vocalizations as Auditory Emoticons

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Non-verbal communication is important part of interpersonal communication. Among others, facial expressions and non-linguistic vocalizations (e.g. laughing or crying) are used as effective means to deliver messages without words or control the strength of messages in words particularly when emotions are involved. These days, in computer-mediated communication (CMC), emoticons have played such a role in a non-verbal manner. While the text or image-based symbols have been popularly used, their acoustic counterpart, or non-linguistic vocalizations have been rarely handled in the CMC. In this paper, we explore the possibility of using non-linguistic vocalization sounds as an auditory emotion. To this end, we built a dataset of non-linguistic vocalization sounds and surveyed how the sounds are emotionally well-paired with emoticons and what characteristics they have in semantic and acoustic aspects. Specifically, we focused on cuteness, naturalness, childness and gender in semantic aspect, considering general properties of image and text emoticons. In acoustic aspect, we analyzed pitch, energy, onset and length. The results show that, in determining the suitability as an auditory emoticon, different characteristics are important depending on emotion types. However, those recognized as cute and natural, and with relatively high pitch or short length, are generally more appropriate as an auditory emoticon. This semantic and acoustic analysis may be used as a guide for designing auditory emoticons.