

Preface

In social interactions, the communication of emotions is an example of a multi-modal transfer of information: the emotional cues are conveyed and perceived simultaneously through several modalities, mainly represented by facial and vocal expressions.

The coding and processing of emotional signals is a challenging objective in the context of Human Computer Interaction (HCI). The research aims at defining methods and procedures capable of automatically identifying human emotional states exploiting the multimodal nature of emotional expressions. The prime goal is allowing the implementation of emotionally interactive dialogues systems, wearable computing, and embodied conversational agents, in order to ease and simplify user access to both nearby and remote telecommunication services.

Most of the research on emotions and related perceptual cues to infer them has focused on three separately expressive domains: facial expressions, voice, and body movements. In addition, studies investigating on emotional facial expressions have mostly exploited static images, neglecting the dynamicity of facial movements. This work is devoted to explore the power of visual and vocal channels, in conveying the emotional cues exploiting realistic, dynamic, and mutually related emotional vocal and facial stimuli. The main goal is to investigate if one channel is more effective than the other for inferring emotional information, and if this effectiveness is affected by the cultural context generated by the spoken language when close cultures are considered. For this purpose we set up perceptual experiments devoted to assess the amount of emotional content that participants from different Western cultures and languages—Italian, American, French, Hungarian, and Lithuanian—can infer from audio, mute video, and audio–video emotional expressions of happiness, fear, anger, irony, surprise, and sadness. The emotional stimuli were obtained from movie scenes relating to two different cultural contexts and played in two different languages: American English (as a globally spread language) and Italian (as a country-specific language).

The introduction to the reported work, the definition of the topics, and the rationale are illustrated in Chap. 1. The detailed description of materials, participants, and procedures exploited in the proposed research experiments, as well as data analyses is the content of Chap. 2. The results are shown and discussed separately for the Italian (Chap. 3), American (Chap. 4), French (Chap. 5), Hungarian (Chap. 6), and Lithuanian (Chap. 7) participants. A further elaboration of the collected data illustrating the cross-cultural comparison is contained in Chap. 8. Chapter 9 presents conclusions and comments.

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