

Bayesian Item Response Model with Condition-specific Parameters for Evaluating the Differential Effects of Perspective-taking on Emotional Sharing

Keishi Nomura

The University of Tokyo, Meguro-ku, Tokyo, Japan

Aiko Murata

Nippon Telegraph and Telephone Corporation, Atsugi, Kanagawa, Japan

Yuko Yotsumoto

The University of Tokyo, Meguro-ku, Tokyo, Japan

Shiro Kumano

Nippon Telegraph and Telephone Corporation, Atsugi, Kanagawa, Japan

Abstract

It is known that perspective-taking helps humans recognize another's emotional state on an individual basis. Here, we investigated how perspectives influence emotional sharing, namely the act of understanding mood, or a relationship between other people in a multiparty conversation. In order to capture the effects of perspectives on sensitivity and bias in responses, we introduced condition-specific parameters in a Bayesian item response model. The model revealed that interlocutors are more sensitive and biased to emotional incongruency when they give ratings for a pair including themselves than that excluding them. This relationship holds for observers who did not participate in the conversation and took the respective perspectives. The findings support the assimilating effects of perspective-taking through which people can perceive mood as the target does.