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# People learn other's preferences on a latent feature space using emotion expressions as labels

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## Abstract

Inferring others' preferences is one of the central cognitive tasks of social life. The inferred preferences are used to predict the behavior of others in novel situations; therefore, a certain level of abstraction is required. We considered the inference of preferences as a classification problem on an abstract latent feature space. Participants (n=96) were asked to show 89 images of automobiles to either an agent that had been programmed with a specific person's preference and which showed facial expressions according to that preference or an agent that did not show facial expressions. Next, participants were asked to predict the agent's likes and dislikes for novel 23 automobiles. The results showed that participants could predict the agent's likes and dislikes for the unseen automobiles with 74% accuracy, indicating that they learned the decision boundary of agents' preferences on the latent feature space using expressions of emotion as labels.