Press Release

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New maps of facial emotions challenge old 'universal' expressions

Equipped with an advanced computer graphics program, scientists have mapped the different features that guide emotion recognition in faces from different cultures.

Until recently, most scientists considered a few facial expressions to be universal. However, those expressions are not recognized as consistently in non-Western cultures.

This week, scientists at the University of Glasgow revealed facial details that could be crucial to classifying emotions across cultures. Understanding these details could improve relations in today's diverse communities.

For almost 50 years, researchers have accepted six basic emotions as universal — happiness, surprise, fear, disgust, anger, and sadness. Researchers have often mapped these emotions with unique codes for the different facial movements involved, such as Dimpler or Nose Wrinkler.

Observers usually classify a face's emotion from a single image of a posed expression. However, the Glasgow scientists applied a computer program to the movement codes to create faces that actually moved. Observers then classified the emotions of the moving faces, and the scientists mapped the positions of the features that mattered most to the observers.

The results from many trials showed that for Western Caucasian expressions, mouth movements were more influential, whereas for East Asian expressions, observers relied more on eye movements.

Professor Veronica van Heyningen, Chair of the Royal Society's Diversity Committee, greeted the findings with enthusiasm: "Cross-cultural research like this is really key to solving the global challenges we face. We need to address these gaps in our knowledge, and also encourage young people from diverse backgrounds to join the scientific workforce."

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