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Dude, you throw like a crybaby!

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A UCLA–University of Glasgow study of baseball tosses has found that body language is more likely to be judged as masculine when it seems to convey anger and as feminine when is seems to convey sadness.

Researchers videotaped actors, both male and female, throwing baseballs in such a manner as to convey a range of emotions. Then, using technology that disguised the actors' sex, they presented the videos to observers and asked them to make judgments about the throwers' emotions and gender.

"Even when observers received minimal information, they were able to discern the thrower's emotion," said Kerri Johnson, the study's lead author and an assistant professor of communication studies and psychology at UCLA. "The findings fit with a growing body of work that shows some 'snap' judgments are highly accurate. But when it comes to deciding whether the actors were male or female, judgments tended to be less accurate, and that may be because perceptions are colored by longstanding stereotypes about masculine and feminine behavior."

The study — "He Throws Like a Girl (But Only When He's Sad): Emotion Affects Sex-Decoding of Biological Motion Displays" — appears in the current issue of *Cognition*, a prestigious peer-reviewed journal that specializes in the study of the mind.

For the project, University of Glasgow cognitive scientist Frank Pollick and Lawrie McKay, then a graduate student at the university, made videos of 30 male and female actors outfitted with markers used in 3-D

motion-capture systems similar to those employed in making such computer-animated films as "Avatar." Basically consisting of small white dots strategically attached to the actors' arms and hands, the technology allows viewers to see only the movements of a body's joints against a black background.

Pollick and McKay asked the actors to throw balls in ways that expressed a variety of emotions, including anger and sadness. The researchers looked at baseball tossing because the activity is gender neutral and easily recognizable but lends itself to a wide range of variations.

Johnson and colleagues then showed randomly selected video clips to 93 college students and asked them to guess the sex of the actors and the mood of the behaviors. Thirty percent of the time — 25 percent would be expected by chance — they accurately judged the throws that were supposed to convey sadness. Observers were even more accurate judging emotion when balls were thrown in anger. Although they could not see the actors' faces, clothing or physiques, they chose correctly 70 percent of the time.

It was a different story, however, when it came to judging the actor's sex. Even though observers were shown an equal number of male and female actors displaying each emotion, they judged "sad" throws to be female about 60 percent of the time and "angry" throws to be male more than 70 percent of the time.

"It's OK — even expected — for men to express anger," Johnson said. "But when women have a negative emotion, they're expected to express their displeasure with sadness. Similarly, women are allowed to cry, whereas men face all kinds of stigma if they do so. Here, we found that these stereotypes impact very basic judgments of others as well, such as whether a person is a man or woman."

Scholars have long been interested in the possibility that gender stereotypes affect our judgments of others. One of the first demonstrations of this sort found that when a crying baby was labeled as a boy, listeners judged the cries to stem from anger; yet when the crying baby was labeled a girl, listeners judged the cries to stem from sadness.

"Here, we applied a similar logic to the perception of emotions as expressed in body language," Johnson said. "We found that prior beliefs and stereotypes can lead to systematic errors in the perception of body motions, which otherwise tend to be fairly accurate."

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