

Ask the non-experts: Psychologists use non-expert student observers in autism research

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Non-expert is not often a term that one would associate with scientific research, but it could become a new trend in psychology research. Some recent studies have begun to rely on non-expert students to observe and provide data during experiments.

In a research project about early autism detection in infants, Dr. Daniel Messinger, an associate professor of psychology in the College of Arts and Sciences at the University of Miami (UM), and his research group are doing exactly that.

"The idea is that human beings are essentially experts on certain aspects of interpersonal interaction. This seems to be particularly true for emotion, as understanding the emotions of others is critical to our own development," says Dr. Jason Baker, a UM postdoctoral researcher with Messinger and first author of the study.

The study entitled "Non-Expert Ratings of Infant and Parent Emotion: Concordance with Expert Coding and Relevance to Early Autism Risk," is published in the January issue of the *International Journal of Behavioral Development*.

The study used 188 non-expert students to observe the interactions of 38 parents and their six-month old infants, 20 of whom had older siblings with autism spectrum diagnoses and were considered high risk, and 18 of whom did not have a [sibling](#) with [autism](#) and were used as a control group.

The parents were asked to play with their child for three minutes and then to keep a still emotionless face for two minutes. The idea was to measure the infant's interactions and how their emotions changed in response to the unusual situation.

Each video was observed and rated by the students. The non-experts were shown the video files and were told to use the joystick provided to rate the emotional state of the subject in the video. A graduated color bar was provided with a neutral tic mark. Ratings above the tic mark indicated positive emotion (joy, happiness, pleasure). Ratings below the mark indicated negative emotion (distress, sadness, anger). The interactions were monitored and recorded by the non-experts.

The experiment showed that when the parents became emotionless, the babies who were at risk showed less positive emotion compared to the infants who were not at risk. Comparing pooled results from as few as 10 non-experts to results from expert coders showed a high correlation between the two groups, demonstrating that small groups of student can effectively gain similar outcomes to the coders who have gone through extensive training.

"These non-experts won't necessarily be able to do more than just observe and record what they see, but if used judiciously, they can be an excellent resource for researchers. Understanding the perspectives of non-experts can also teach us more about the concepts we are studying," Messinger says.

The use of non-experts greatly simplifies the process of finding people who can assign ratings for tests such as these. The process usually involves training coders using manuals "hundreds of pages thick" about measuring facial expressions. Then those people have to be trained in reliability and have to be tested, before they are even allowed to see tapes according to Dr. Messinger.

When asked about the future of this kind of research method, Dr. Messinger stated "We hope people begin to appreciate the utility and the appeal of non-expert ratings, and we are excited about the full range of psychological constructs that these ratings could potentially inform."

Provided by University of Miami

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