

Not the usual suspects: New interactive lineup boosts eyewitness accuracy

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Allowing eyewitnesses to dynamically explore digital faces using a new interactive procedure can significantly improve identification accuracy compared to the video lineup and photo array procedures used by police worldwide, a new study reveals.

Interactive lineups present digital 3D faces that witnesses can rotate and view from different angles using a computer mouse—enabling witnesses to actively explore and match faces to their recollection.

Publishing their findings today in *Proceedings of the National Academy of Sciences*, psychologists found that the interactive procedure enhanced people's ability to correctly identify perpetrators and avoid misidentifications.

Lead author and Ph.D. student Marlene Meyer from the School of Psychology at the University of Birmingham said, "Witnesses were much better at telling innocent from guilty suspects using the interactive lineups. This technology creates retrieval conditions that boost memory performance."

Researchers recruited 550 volunteer "witnesses" to test ability to make a correct identification of previously seen individuals. To test their memories, witnesses were shown images of the perpetrator, alongside filler images of similar faces. The researchers found that presenting the images via interactive lineups improved accuracy by 27–35% over photo arrays and 35–75% over video lineups.

Professor Heather Flowe from the School of Psychology at the University of Birmingham and senior author of the paper commented, "By integrating this technology, we may observe a dramatic reduction in identification errors, which will pave the way towards more just outcomes in criminal investigations and proceedings around the world. This tech update to police procedures warrants further testing and

adoption to prevent wrongful convictions."

The study is the first to experimentally compare interactive lineups against police video lineups and photo arrays. The results, showing interactive lineups' superiority over the two most widely used identification procedures used by law enforcement, could potentially revolutionize how law enforcement agencies conduct eyewitness identification.

"This study highlights the exciting potential of interactive lineups," said Matt Whitwam, Director of Promaps, a [software company](#) that supplies [police forces](#) with lineup technology. "We look forward to working with [law enforcement](#) to test interactive systems that harness technological advances for more accurate investigations."

More information: Marlene Meyer et al, Enabling witnesses to actively explore faces increases discrimination accuracy, *Proceedings of the National Academy of Sciences* (2023).

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Provided by University of Birmingham

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