Spotting a famous face in the crowd

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People can only recognize two faces in a crowd at a time – even if the faces belong to famous people. So says Volker Thoma of the University of East London in the UK in an article which sheds light on people's ability to process faces, published in Springer's journal *Psychonomic Bulletin & Review*. The findings have relevance to giving eye-witness testimony or for neuropsychological rehabilitation.

Thoma set up two experiments in which participants were asked to identify a famous politician such as Tony Blair and Bill Clinton or pop stars such as Mick Jagger and Robbie Williams from among other unfamiliar faces. In both cases, a distractor face was placed to the side of the screen, but participants were asked to ignore it.

In the first experiment, the famous face was shown at the vertical center of the computer screen, either on its own or among one or two unknown faces. Participants had to quickly respond to whether it was a famous politician or singer. Despite being asked to ignore the unknown face on the periphery, its presence still influenced participants' ability to recognize the famous face, showing that faces are hard to ignore. However, when more faces were shown in the center – making it harder to find Mick Jagger – participants did not notice the irrelevant face anymore. According to Thoma, this indicates that humans can only deal with and process a few faces at a time, whether they are well known or not.

Interestingly, the same thing also happened in the second experiment when the additional faces surrounding the famous person's photograph were shown upside down. Thoma describes this result as "surprising," as upside-down faces are usually less recognizable and easier to ignore. In fact, it was previously thought that upside down faces are not perceived as individual faces, but more like objects. One would have therefore expected the famous face to stand out, which it didn't.

So far it has been assumed that humans recognize faces as one whole object or image, and not by looking at different parts (such as lips, ears and eyes) or local features that together form a face. Thoma now says that face parts rather than whole faces interfere with our limited capacity to identify faces.

"People recognize faces automatically as long as they have sufficient capacity to do so, but not when this ability is stretched by the presence of too many faces," explains Thoma further. "Face recognition seems to be limited to the amount of face-specific resources or parts, and even happens when other faces are shown upside down."

More information: Thoma, V. (2014). Face-specific Capacity Limits

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