**Using psychology to combat wrongful conviction.**

Do you recall the last supermarket cashier you interacted with? What sex, race and age were they? Despite how confident you may feel in your memory, research suggests human facial recognition is surprisingly poor. Since the 1970s, psychologists have questioned the accuracy of facial recall and searched for an explanation. In 1978, one such psychologist Graham Davies suggested that recall is restricted by the highly selective nature of memory storage. Research demonstrates these limits of human memory. Since Jacobs’ investigation into number recall in 1887 and Miller’s infamous magic number of 1956, there has been general consensus that seven is roughly the capacity of single items tenable in short-term memory. Additionally, research by Peterson and Peterson showed that short term memory only lasts about 18 seconds without rehearsal. Essentially, this means we cannot afford to waste our limited memory resources on unnecessary stimuli. You might assume that avoiding the storage of meaningless information is a good thing. Until you find yourself unwillingly witnessing a crime. Then suddenly, remembering the irrelevant details becomes a matter of great importance.

Before the development of DNA forensics in the 1980s, eyewitness testimonies were often the most common and direct form of evidence used in court. In an overview of eyewitness testimony, psychologists Cara Laney and Elizabeth Loftus claim that it is also the most persuasive type of evidence. Furthermore, in his 1908 book ‘On the witness stand’, Hugo Münsterberg observed that jurors accept the chance of forgetting but do not account for the possibility of witnesses misremembering. A large body of evidence also records several types of unconscious bias affecting facial recognition. The combination of the jury’s overestimation of human memory; the persuasive power of eyewitness testimony and the unconscious biases influencing recall makes for a dangerously high chance of misidentification. The statistics confirm this cause for concern. Amongst 232 individuals exonerated by US NGO The Innocence Project, since its founding in 1992, a staggering 63% involved eyewitness misidentification, depicted by the graph below. This organisation is just one of many dedicated to releasing thousands of wrongfully incarcerated innocents. Understanding the psychological reasons for misidentification could be a crucial step towards preventing further injustice, deeming this research field highly important.

**The percentage of all exonerations since 1992 involving various causes**

data sourced from: https://innocenceproject.org/exonerations-data/

Several decades of psychological research corroborate the influence of unconscious bias on facial recognition accuracy. Many of these biases are types of in-group bias. In-group bias means we are better at recognising individuals who share group membership with us.

Own-race bias is a type of in-group bias regarding improved recall accuracy for faces of our own race. It is one of the most scrutinised variables influencing eyewitness testimony. It is also particularly salient given ongoing concern about inherent racism within the criminal justice system. The research to date provides a concrete consensus that own-race bias has a significant impact on identification. In 2001, Meissner and Brigham reviewed 39 studies and found misidentification was 1.56 times more likely for other-race faces compared to own-race faces. A study lead by Pezdek in 2003 also found the bias present in individuals from 5-25 years old. This suggests that the bias may develop early in life or might even be innate. These are just two examples from the countless studies providing plentiful and compelling evidence for the ubiquitous impact of own-race bias.

We have established the existence of own-race bias, but can we explain it? Many studies offer hypotheses for the psychological mechanisms behind it. One possible explanation is simply that we have more contact with others of the same race as us, making us more practiced at recognising them. At an American Psychology-Law Society conference in 1998, Dunning and colleagues presented fascinating support for this theory. Amongst non-black committed American basketball fans, they found reduced own-race bias – explained as a result of repeatedly individuating players, the majority of whom were black.

Another explanation put forward by Levin in 1996 assumes that, although total amount of variability of faces is equal across all races, the type of variability differs. Since people tend to have more experience distinguishing between faces of their own race, the processing becomes automatically tuned to the features most likely to vary across their race.

In 2001, Siegfried Sporer proposed an alternative theoretical model. He suggested, when presented with an out-group member, the brain takes time to establish their contrasting group membership before processing any individual differences. When presented with an in-group member, however, the brain skips this initial categorisation step and focuses on individual facial features. This increased attention on facial features allows for better recognition accuracy.

There are many more available theories explaining own-race bias, and at present none supersede the rest. However, this does not mean exploring all the explanations is not useful in determining how to mitigate against misidentification.

The research provides a crucial starting point for improving eyewitness testimony practice. Internationally, warnings to the jury about dangers of eyewitness misidentification have already been widely implemented, but the effectiveness of this on reducing bias is disputed. More innovative efforts might tackle own-race bias better. For example, based on Sporer’s in-group/out-group model, pointing out a shared group membership between the witness and the suspect *before* identification might reduce the impact of own-race bias. Focussing on a common group membership may prevent cognitive group categorisation and direct focus to individual features. *Before* presenting a suspect of different race to the witness, attention could be drawn to any other common in-group characteristic, for instance shared nationality. In theory, this could prime the witness to allocate more mental resources to processing the individual’s face over the social differences between them.

To conclude, eyewitness testimonies are less accurate than the general public - and therefore the jury - realise. The resulting mistaken identification can lead to severe injustice and is a predominant factor in wrongful convictions. Bias towards recognising own-race individuals is widely demonstrated by empirical evidence and is a likely influence on misidentification. Tackling this bias using psychological theory might inform the development of techniques with the potential to revolutionise eyewitness identification practice.

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