Training of Eyewitnesses

The ability to accurately recognize others is important to everyone, as many social and personal resources are uniquely associated with individual persons. The recognition of individuals who carry or embody resources – whether they be social, personal, physical, or economic – can be very important. Nevertheless, most people experience only the facial or personal recognition training that comes with everyday social interaction and which provides recognition incentives within their social environment. The ecology of personal recognition and the social-cognitive processes through which it develops have hardly been studied, and the social conditions under which some persons might become more accurate recognizers than others are largely unknown. Attempts to improve face recognition through short-term training focused on changing the attributes of faces that participants attend to or use in encoding facial information have largely proved ineffective.

There are social environments in which higher recognition performance levels would be very valuable. These are most commonly environments in which individuals to be recognized or identified have committed some crime and need to be apprehended. For example, persons at risk as victims due to their employment (bank tellers, convenience store clerks) might benefit from being capable of high recognition performance levels. Law enforcement, military, or intelligence personnel likewise would benefit from higher levels of recognition capability than the general public. For this reason developing effective training in face recognition has real practical utility. Unfortunately, the available evidence is not encouraging: there is little evidence that persons of any occupational group are reliably better or worse at recognizing faces than any other. Research conducted with law enforcement officers suggests that they are no better than other citizens in face recognition accuracy; however, officers have been shown to perform better at recalling the details of an event.

Research on face recognition training also has theoretical utility because of the need to better understand the basic cognitive and social psychological processes that form the basis for training. While face recognition processes have been shown to involve both featural and holistic components, few studies have been directed at using these aspects of face recognition to improve recognition. We know that elaborated or inferential processing of faces leads to higher levels of recognition performance, and it appears that such processing is the default mode. Instructing participants to attend narrowly to specific features causes their recognition performance to suffer. Some studies show that attempts to change or refine the facial information research participants extract at the point of encoding can lead to reduced recognition performance. This may result from attempting to substitute new memory strategies based on relatively short training experiences for encoding and recognition strategies that are based on a lifetime of practice. There is growing evidence that we develop face selective processing very early in life, and that this processing is selective for our own "race" (or that which is experienced early).

A deficit in face recognition accuracy has been shown when people attempt to recognize faces of other "races". Known as the cross-race effect, studies have consistently shown the deficit in recognition across a variety of races, ethnicities, and nationalities. A few studies have attempted to train individuals on improving their ability to make accurate cross-race identifications; however, the studies have shown limited success, demonstrating that training effects are at best temporary and inconsistent. The methods used to train face recognition have varied immensely since the early seventies. For instance, one of the first training studies administered electrical shock following an incorrect recognition judgment. After only one hour of training, results from the study indicated that the shock feedback improved recognition performance; however, the training failed to test whether or not the enhanced performance could be sustained over a significant period of time. Another study trained participants to focus on critical facial features that were believed to differ between Euro-American and African-American faces. Once again, participants

showed immediate improvement in their face recognition ability; however, these effects diminished after the passage of one week. More recent research has focused on "feature-critical training" using INDSCAL analyses of physiognomic differences between certain races. Results have suggested that such training improved cross-race face recognition; however, once again there was no indication of the persistence of the improvement or whether the improvement could be generalized across faces within that race. In conclusion, it is unclear at this juncture whether or not systematic training can, or ever will, reduce or eliminate the cross-race effect.

Natural experience (or the lack thereof) appears to be the basis for the cross-race effect, and studies of the effects of changing environments over a period of years (e.g. residential school experience) support this, as do studies of the effects of high levels of interest in sports where many of the outstanding performers are of a "racial" group contrasting with the "racial" group membership of many fans. Fans investing large amounts of time in watching the sport and who have a high level of detailed knowledge about the players show a reduced level of the cross-race effect. It is thought that social incentives and penalties exist for successful recognition or recognition errors or omissions. As good an idea as this might be, manipulating incentives as a training technique has not been studied.

Given the general failures in training individuals to improve their recognition of faces, a current movement in the research has involved developing computer-based recognition algorithms. A number of procedures have been developed to use information from facial images to match one instance of a person to another of the same individual, under different conditions. Great progress has been made in this line of research, and it has now been shown that face recognition algorithms can be superior to human face recognition even under previously troublesome conditions, such as differences in illumination and shadow between the two photos to be matched. In addition, fusing the use of computer image processing algorithms with human similarity judgments leads to near perfect recognition. Nevertheless, the problem of extracting accurate identifications from human memory remains. While human judgments have lead to improvements in computer based face recognition, computer based support systems using genetic algorithms have been shown to provide effective assistance in human recognition.

Overall, training the human cognitive system to achieve higher levels of face recognition performance is an important goal, with only very modest advances achieved.

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Cross-References:
Cross-Race Effect; Eyewitness Identification; Face Recognition; Expert Psychological Testimony on Eyewitness Identification; Police as Eyewitnesses

Further Readings

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