Psychological Understanding and Forensic Use of Gait and Body Movement Evidence

van der Zwan and Gaetano (2017)

Two psychologists discuss the challenges surrounding the ability to identify people and the nature of their behaviour from their gait and other bodily movements through time and space. Such evidence from CCTV footage, for example, can be important for a prosecution when face and voice evidence is absent or ambiguous. This session highlights the relevance of understanding this type of identification evidence which has received relatively less attention from researchers than understanding face and voice recognition ability.

After a brief introduction to the neurobiology of complex sensation, the idea of brain as social processor is forwarded: Large portions of the brain are given over to processing information about other people, trying to understand where they fit into the social environment, and whether or not they are likely to be friendly, aggressive, trustworthy, and so on. The authors argue that the moral and social brain are non-exclusive - from a brain-based perspective, making sense of forensic data *is* social processing. What follows is a discussion on the various form cues (e.g. face and hand shape, fingerprints, etc.), and motion and olfactory cues that can inform forensic analysis.

While physiognomy was once used to diagnose legal guilt, modern eyewitness testimony works on an inverse principle; for instance, we ask people to *recall* facial features and use their description to build a *representation* of the suspect's identity. Biological motion research builds a strong case that motion independent of form can carry salient cues about another's character or intention. For instance, research has suggested that inmates who exhibit psychopathic traits are more skilled at identifying potential victims from gait patterns than are non-psychopathic inmates (Book et al., 2013). Such findings turn the focus of the authors' talk to the role of perceptual experience in eyewitness testimony. It is noted that expertise effects (e.g. the *other-race effect*; Meissner & Brigham, 2001) can interact with ambiguity-dependent effects (e.g. *male bias*; Gaetano et al., 2016), and this needs to be considered carefully in the context of forensic models. Furthermore, the ecological validity of stimuli is important in model evaluation, because (for example) viewing a criminal act on colour versus grayscale CCTV is a qualitatively different experience. Finally, the authors talk about the influence of contextual or environmental cues on law enforcement professionals' interpretation of evidence.

Keywords

Notes

Abstract accompanies a talk presented by the primary author. Both authors wrote the talk and the second author prepared this summary. Author contact: Justin Gaetano (jgaetan2@une.edu.au).

Suggested citation

van der Zwan, R., & Gaetano, J. M. (2017). *Psychological understanding and forensic use of gait and body movement evidence*. Talk presented at Brave New Worlds: Biennial Conference of the National Judicial College of Australia, Australian National University, Canberra, 4-5 March. Canberra, ACT: National Judicial College of Australia.

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