



Research in Action: Enhancing investigations with crime linkage

Crime linkage is the process of linking two or more crimes together, based on the underlying principles that perpetrators' behaviour will be both consistent and distinctive. Our team in the 21st Century Transnational Crime theme investigates the proper use of crime linkage, and evidence-based forensic psychology, by practitioners of law enforcement.

Researchers at the University of Birmingham have long been at the forefront of developing the scientific foundations for crime linkage and have established benchmarks to assess the reliability of the underlying principles which has led to significant advances in the field. Their studies have shown that across a range of crime types (e.g., rape, burglary, robbery), offenders are consistent and distinctive enough in their behaviour for crimes from the same series to be identified with a high degree of accuracy.

However, there are some crimes within a series that are characterised by inconsistent or indistinct behaviour. In these cases, erroneous links could be made that could have significant investigative and legal ramifications. Crucially, the team have shown that unapprehended offenders are less consistent in their crime scene behaviour than apprehended offenders (and crime linkage is normally applied to identify the former).

This nuanced insight into perpetrator behaviour is at the heart of the IGI-IAS work on crime linkage to support practitioners in both increasing and safeguarding its use.

One key project has assessed the role of Automatic Number Plate Recognition (ANPR) in linking crime series and detecting serial offenders. A collaboration between academics in the departments of Psychology and Economics, the Serious Crime Analysis Section of the National Crime Agency, the Metropolitan Police, and the Home Office, explored the distances in time and space between crimes from the same series. This ESRC IAA and National Police Chiefs Council funded project has led to new understandings on how ANPR can have use in practice for tackling and solving serial sexual offences and was included in national guidance sent out to all ANPR police units in England and Wales.

The team are now expanding their work into other countries (including a project commissioned by the Swiss Police into their practice of crime linkage), and delving deeper into the role of data science and artificial intelligence in supporting crime linkage. One such project will examine how Natural Language Processing can help in the semi-automated population of crime linkage databases.

“Used correctly, crime linkage can be transformative for police forces in tackling serious and prolific offenders. Our goal is to work with practitioner colleagues to embed proper evidence-based use for different types of crime across diverse global settings.”

Professor Jessica Woodhams