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Introducing Investigative Psychology

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Chapter 11

Introducing Investigative Psychology

Donna E Youngs and David V Canter

After studying this chapter, you should be able to:

- define Investigative Psychology, and explain its use or role
- identify and explain the ten classes of operational question used by investigators
- explain the concept of 'profiling equations', and how these are used to make inferences about crimes
- distinguish the three common roles that a perpetrator assigns to his/her victim
- discuss the role decision-making plays in investigation
- outline how psychology can help to obtain useful data and interpret this data during an investigation.



>> Investigative psychology can be used to investigate terror incidents

Investigative psychology is concerned with psychological input to the full range of issues that relate to the management, investigation and prosecution of crime

What is Investigative Psychology?

Investigative psychology (IP) is a framework for the integration of a diverse range of aspects of psychology into all areas of criminal and civil investigation. It is concerned with all the forms of criminality that may be examined by the police, from arson and burglary to murder, rape or even terrorism. The discipline also extends to cover those areas of activity that require investigation but may not always be conventionally within the domain of police services. These may include matters such as insurance fraud, corruption, malicious fire setting, tax evasion or smuggling. Increasingly, issues of crowd control and public order are also being studied by investigative psychologists. The main concern is the ways in which criminal activities may be examined and understood in order for the detection of crime to be effective and for legal proceedings to be appropriate. As such, investigative psychology is concerned with psychological input to the full range of issues that relate to the management, investigation and prosecution of crime.

The contributions that psychologists can make to police investigations are most widely known and understood in terms of 'offender profiles'. Offender

profiling, as typically practised, is the process by which individuals, drawing on their clinical or other professional experience, make judgements about the personality traits or psychodynamics of the perpetrators of crimes. A well-known South African profiler is the psychologist Micki Pistorius, who has worked on a number of high-profile South African cases (Pistorius, 2000, 2002). From the perspective of scientific psychology, however, such a process is flawed in its reliance on clinical judgement rather than actuarial assessment. These flaws have been shown in extensive studies first reviewed by Meehl (1954). The clinically derived theories upon which much 'offender profiling' has relied are equally questioned by research psychologists.

The lack of scientific rigour evident in the profiling process has for two decades driven proponents of investigative psychology research to map out the scientific discipline that could underpin and systematise contributions to investigations. Interestingly, this more academically grounded approach is opening up the potential applications of psychology beyond those areas in which 'profiling' first saw the light of day, rather than moving away from operational concerns. Early profilers insisted that their skills were only relevant to bizarre crimes in which some form of psychopathology was evident, notably serial killing and serial rape, but investigative psychologists now study and contribute to investigations across the full spectrum of illegal activities. Similar work has also taken place in South Africa, including the case of the Cape Town 'station strangler' (Pistorius, 2000).



>> Dr Micki Pistorius, a South African psychologist and criminal profiler, who does not allow photographs to be taken of her face

Operational applications

Investigative psychologists are increasingly able to inform answers to ten classes of operational question that police and other investigators face in the course of their activities.

1 Salience. What aspects of a crime are the salient ones?

So much of apparent significance can happen in a crime that it is not necessarily obvious to the investigator what the features of the crime are to which attention should be paid. These features may help investigators to understand the crime and its context more fully and may fruitfully point to the type of individual who may have committed the offence.

2 Suspect elicitation. What searches of police records or other sources of information should be carried out to help identify the offender?

This is a question about what the dominant features of offenders are likely to be. This can open up searches of particular areas or databases, inviting information from the public, or working with informants. All these processes can draw upon a fuller

Investigative psychology can provide answers to operational questions by providing a framework for understanding procedures

understanding of the crime and the sorts of people who commit such crimes.

- 3 **Suspect prioritisation.** Which of the possible suspects are most likely to have committed the crime?

The personal characteristics and previous behavioural patterns of the offender, as inferred from the study of the crime, can help the police to distinguish the perpetrator of a given crime from other known offenders the police may be considering. In operational terms, this becomes a question, for example, of which suspects should be drawn from police or other databases for the most detailed scrutiny. So, for example, indications that the Investigative Psychologist could give about the likely criminal history of an offender who has committed a certain type of crime in a certain way, may be helpful to police searching through their lists of possible suspects.

- 4 **Offender location.** Where is the offender most likely to have a base?

Ideas about where an offender is likely to be living can shape an investigation and the deployment of police personnel and resources. Understanding the geographical patterning of an offender's criminal activities and how this relates to his/her home base has huge potential significance in operational terms.

- 5 **Linking crimes.** Which crimes are likely to have been committed by the same perpetrator(s)?

The linking of crimes to a common offender/s has many advantages for police investigations. Such linking requires the determination of what it is about any given offender that is sufficiently internally consistent, from one crime to the next, to suggest that a single person is responsible for the crimes. If most burglars use forced entry, it is unlikely that will be able to link together two burglaries committed by the same person who also happens to use forced entry. Of course, if a burglar has a mode of operating that is as unique to him/her as a signature, then that can be used to link his/her crimes. It is rare, however, for any criminal to reveal such 'signatures' consistently. It therefore follows that issues of salience in the offender's actions are taken to a further level when linking is considered. The salience of the action in distinguishing one offender from another needs to be studied, as well as its salience in distinguishing one offence from another.

- 6 **Prediction.** Where and when will the offender commit his/her next offence and what form might that take?

When the police are investigating a series of crimes, predicting where and when the next offence will occur becomes a key operational concern. The likely severity of the offence, for example, whether violence is likely to escalate, or whether a different form of offence is probable, is also of operational significance.



>> The Saloon Killer,
Velaphi Ndlangamandla

7 Investigative decision-making. In what ways can the investigative process be improved?

The actual details of how investigations are organised and the processes of decision-making are open to psychological scrutiny and can be influenced by knowledge of the cognitive and social processes involved. This leads on to the consideration of the most effective decision support tools and the development of such tools.

8 Information retrieval. How can the collection of information in an investigation be made more effective?

The interviewing of suspects, witnesses and victims, as well as the harnessing of information from other public and private sources can all benefit from an understanding of the cognitive and social processes involved in these activities, as well as the data management skills that are part of a psychologist's training.

9 Evaluation of information. How can the information that becomes available be assessed?

The most obvious area of psychological study here is in the detection of deception. However, other aspects of the validity and reliability of information obtained are open to systematic scrutiny and improvement, particularly by drawing on psychometric tools.

10 Preparing a case. What sense can be made of the offence that will help to organise the legal case?

In court, the prosecution – and the defence – draw implicitly on lay models and ideas about human behaviour to make their case. Formal psychological theories can be used to structure legal cases, and this will on occasion improve the quality of arguments.

Psychology can contribute to these operational matters at two levels. Most significantly, investigative psychologists are able to provide substantive knowledge, based on empirical studies, and these studies can, increasingly, provide direct answers. Secondly, psychology can provide a framework for understanding the processes that police must go through in attempting to find the answers. Conceptualising these processes in familiar terms allows psychologists to suggest improvements.

ACTIVITY 11.1

Find out the range of crimes and types of investigation to which investigative psychology has been applied, visit [www.i-psy.com] and seek out the various investigations mentioned.

Empirical solutions to the 'profiling equations'

At the heart of these ten operational questions are what have become known as the 'profiling equations' (after Canter, 1995). These are equations that provide the scientific bases for inferring associations between the actions that occur during the offence – including when and where they happen and to whom – and the characteristics of the offender, including the offender's criminal history, background, base location, and relationships to others. They are also referred to as the 'A => C equations', where

A are the actions related to the crime, and

C are the characteristics of typical offenders for such crimes, and

=> is the argument and evidence for inferring one from the other.

Profiling equations state that the actions of the offence are related to the characteristics of the offender

Investigative psychologists have conducted – and continue to conduct – a wide range of empirical studies of different types of crime, with the purpose of establishing solutions to these equations, in the hope of providing objective bases for investigative inferences.



>> David Canter: The founder of the Centre for Investigative Psychology in Liverpool

Theoretical underpinning of inferences

The inferences that detectives make in an investigation about the perpetrator's likely characteristics will be valid to the extent that they are based on appropriate ideas about the processes by which the actions in a crime correlate with the characteristics. A number of potential processes are postulated within social and psychological theories. These include psychodynamic theories and personality theories, as well as frameworks drawing on interpersonal narratives and on socio-economic factors. Any or all of these theories could provide a valid basis for investigative inferences if the differences in individuals that they posit correspond to real variations in criminal behaviour.

One general hypothesis is that offenders will show some consistency between the nature of their crimes and characteristics they exhibit in other situations. This is rather different from psychological models that attempt to explain criminality as a displacement or compensatory activity, resulting from psychological deficiencies. The evidence so far is consonant with this general consistency model, suggesting that processes relating to both the offender's characteristic interpersonal style and his/her routine activities may be particularly useful in linking actions and characteristics (see Cohen & Felson's 1979 'Routine Activities Theory').

Valid inferences also depend upon an understanding of the way in which a process operates. Conceptually there are a number of different models that can be drawn on to link an offender's actions with his/

her characteristics. One is to explain how it is that the offender's characteristics are the cause of the particular criminal actions. For example, if a man is known to be violent when frustrated, this knowledge provides a basis for inferring his characteristics from his actions.

A different theoretical perspective would be to look for variables that were characteristic of the offender and that would influence the particular offending actions. A highly intelligent person, for instance, may be expected to commit a fraud rather differently from someone with educational difficulties. The intelligence may be reflected in the style of action even if not in the actual cause of the action.

A third possibility is that actions give rise to some consequences from which characteristics may be inferred. An example of this would be when particular types of goods are stolen that imply that the thief must have contact with other offenders who would buy or distribute those goods.

It is worth noting that the search for models of inference avoids unnecessary assumptions about what are often referred to as the 'motives' for an offence. Speculations about the reasons why an offence took place can be productive but they should not be confused with empirical exploration of the correlations that underlie the relationships between actions and characteristics, and on which firm inferences can be based.

From an applied perspective, it is also important that the variables on which the inference models draw are limited to those of utility to police investigations. This implies that the A variables are restricted to those known prior to any suspect being identified, typically crime scene information and/or victim and witness statements. The C variables are limited to those on which the police can act, such as information about where the person might be living, his/her criminal history, age or domestic circumstances.

These inference models operate at the thematic level, rather than being concerned with particular, individual clues as would be typical of detective fiction. This approach recognises that any one criminal action may be unreliably recorded or may not happen because of situational factors. But a group of actions that together indicate some dominant aspect of the offender's style may be strongly related to some important characteristic of the offender. Davies, Wittebrod and Jackson (1997) showed the power of this thematic approach. They demonstrated from their analysis of 210 rapes that if the offender took precautions not to leave fingerprints, stole from the victim, forced entry and had imbibed alcohol, then there was a very high probability (above 0.9), that the offender had a prior conviction for burglary.

ACTIVITY 11.2

Find Canter and Fritzon's (1998) study of arsonists. Explain their four distinct themes of arson, and think about whether this model can be applied to other criminal behaviours as well.

The most thoroughly developed empirical examination of thematic inference hypotheses is Canter and Fritzon's (1998) study of arsonists. They drew on Shye's (1985) Action Systems model of behaviour to identify four styles of arson, resulting from differences in the source of the objectives for the action (Expressive or Instrumental) combined with differences in the direction of the effect of the action (Person or Object). They developed scales to measure these four themes: Expressive Person, Expressive Object, Instrumental Person and Instrumental Object themes in the actions of arsonists. They developed a further four scales to measure the same themes in the background characteristics of the 175 solved arson cases they studied. Their table relating measures on all four background scales to all four action scales showed that the strongest statistically significant correlations were, as predicted, between actions and characteristics that exhibited similar themes, and lowest between those that did not.

Studies of inference need to recognise the social or organisational context in which the criminal operates. The social processes that underlie groups, teams and networks of criminals can reveal much about the consistencies in criminal behaviour and the themes that provide their foundation. A clear example of this is a study by Wilson and Donald (1999), which examined the different roles taken by teams of 'hit and run' burglars. They demonstrated, for example, that the offender who was given the task of driving the getaway vehicle was most likely to have a previous conviction for a vehicle-related crime. In contrast, the criminal assigned the task of keeping members of the public at bay, or controlling others who might interfere with their crime, i.e. the 'heavy', was most likely to have a previous conviction for some form of violent offence.

These findings of consistency between social role and forms of criminal endeavour are in keeping with the general thematic framework that is emerging through the studies of actual actions in a crime. They lend support to a general model of criminal activity that recognises the specific role that criminality plays in the life of the offender. It further supports the perspective that, for the sorts of offenders considered in the studies cited, the style of criminality is an integral, natural part of the criminal's general lifestyle, not some special, atypical aspect of it.

Criminality occurs within a social or organisational climate, and crime is often related to the social role played by the offender

ACTIVITY 11.3

Police officers often face decision-making challenges when trying to solve a crime. Go to the SAPS website and look at the particular areas of crime that South African police investigate. Also think about the importance of context in South Africa, and identify other possible stressors that police officers may face.

The classification of criminal behavioural style is central to the inference process. In order to generate possibilities and to select from them, detectives and other investigators must draw on some understanding of the actions of the offender(s) involved in the offence they are investigating. They must have some idea of typical ways in which offenders behave that will enable them to make sense of the information obtained. A central research question, then, is to identify the behaviourally important facets of offences, i.e. those facets that are of most use in revealing the salient psychological processes inherent in the offence. These carry great potential for answering questions posed by investigators.

Differentiation

To allow empirically based models of investigative inference to be used operationally, it is necessary to have some indication of the themes that are focal to the actions of offenders, as this will allow them to be distinguished from each other. If every offender were consistent in the same way then the $A \Rightarrow C$ equations would provide characteristics that were the same for every offender. Research needs to enable inferences both about consistency and differentiation of offenders.

Studies have tended to explore the hypothesis that these themes reflect the mode of interpersonal transaction that the offender uses to carry out the crime. One elaboration of this mode of interpersonal transaction was put forward by Canter (1995). He takes a more social psychological perspective on what Canter and Fritzon (1998) called the 'locus of desired effects'. The locus here is the role the offender assigns to his/her victim during the crime. There are three general roles to which a victim may be assigned:

- 1 Where the offender treats the victim as an object, i.e. as something to be used and controlled through restraint and threat, often involving alternative gains in the form of other crimes such as theft.
- 2 Where the offender sees the victim as a vehicle for the offender's own emotional state, e.g. anger and frustration. The victim is typically subjected to extreme violence and abuse.

'Locus of desired effect'
refers to the role assigned
by an offender to the victim

- 3 Where the offender sees the victim as a person. Some level of pseudo-intimacy is sought, with attempts to establish a degree of rapport or relationship.

Canter (1995) presents some evidence for this model as a basis for differentiating rapists. A study by Canter, Hughes and Kirby (1998) supported this model with data from 97 paedophiles. Salfati and Canter (1999) used a somewhat different vocabulary in their study of 82 stranger homicides but still presented an analogous three-fold model.

Behavioural salience

There are many things that occur in a crime. Therefore the challenge to the police officer, as for the researcher, is to identify those features that are of most relevance to deriving inferences about the offender. The determination of the salient characteristics is an empirical question in the sense that some knowledge of the base rate of behaviours of particular classes of crime is essential before the characteristics that are particularly important in understanding a given offence can be appreciated.

Salience has emerged in several studies as being related to the social psychological context of the offence rather than the focal actions that define the offence. For example, 'the use of the woman as a sexual object is at the core of sexual assault' (Canter & Heritage, 1990, p. 198). The salient differentiations therefore are those that relate to how this core activity is instantiated in any particular offence.

This concern with the intended effects of crime follows the discussions of the role of emotion in offending that can be traced back to the consideration of instrumental aggression in violent crimes. Canter and Fritzon (1998) generalised the consideration of whether violent crimes were instrumental or expressive to cover other forms of crime, specifically arson. They did this by regarding crimes as aimed at a variety of types of target. Sometimes the target may be a modification of the feelings of the criminal, and thus be essentially expressive, or it may be a search for a particular overt reward, thus essentially instrumental. It is this overlay, or elaboration, of the central criminal acts that give those acts their significance and investigative salience. The elaboration is clearest when the acts can be seen in the general context of other actions committed during similar crimes. If they can be modelled as a proportion of the overall frequency of actions that occur in that class of crimes, then a reasonably precise definition of

their salience can be determined. In other words, criminal actions that have some distinct theme but are relatively rare provide the basis for differentiating between offences.

Consistency, development and change

A complication to establishing the $A \Rightarrow C$ equations is that the way a person commits a crime will change over time, even if there is a background of consistencies. This is also true of a person's individual characteristics. However, if the basis of these changes can be understood then they can be used to enhance the inference process. The following five relevant forms of change were identified in a review by Canter and Youngs (2003).

- 1 **Responsiveness.** A criminal's actions may not be the same on two different occasions because of the different circumstances he/she faces. An understanding of these circumstances and how the offender has responded to them may allow some inferences about his/her interpersonal style or situational responsiveness to be made that have implications for the conduct of the investigation.
- 2 **Maturation.** Maturation is an essentially biological process of change in a person's physiology with age. Knowledge of what is typical of people at certain ages, such as sexual activity, or physical agility, can thus be used to estimate the maturity of the person committing the crimes and to explain the possible basis for longer-term variations in an individual's criminal activity.
- 3 **Development.** The unfolding psychological mechanisms that come with age provide a basis for change in cognitive and emotional processes. One reflection of this is an increase in expertise in doing a particular task. Evidence of such expertise in a crime can thus be used to help make inferences about the stages in a criminal's development that he/she has reached and indeed to indicate the way their crimes might change in the future.
- 4 **Learning.** Most offenders will learn from their earlier offending in the same way that learning theorists have shown that behaviour generally is shaped by experience. So, for example, an offender who struggled to control his first victim, may be expected to implement some very definite restraining measures during subsequent offences. Indeed, for offenders, the particularly salient, potentially negative consequences of their actions (e.g. prison) may make this a powerful process for change in the criminal context. An inferential implication of this is that it may be possible to link crimes to a common offender by understanding the logic of how behaviour has changed from one offence to the next.
- 5 **Careers.** The most general form of change that may be expected from criminals is one that may be seen as having an analogy to a

legitimate career. This would imply stages such as apprenticeship, middle management, leadership and retirement. Unfortunately the criminology literature often uses the term 'criminal career' simply to mean the sequence of crimes a person has committed. It is also sometimes confused with the idea of a 'career criminal', someone who makes a living entirely out of crime. As a consequence much less is understood about the utility of the career analogy for criminals than might be expected. There are some indications that the more serious crimes are committed by people who have a history of less serious crimes and that as a consequence, the more serious a crime the older an offender is likely to be. But a commonly held assumption, such that serious sexual offences are presaged by less serious ones, does not have a lot of empirical evidence in its support.

Facilitating the investigation process

A further level of potential contribution to police investigations is possible if components of the investigation can be understood within common psychological frameworks. In an overview of the field, Canter and Youngs (2003) posit that the challenges police face during the course of an investigation may be readily conceptualised as a series of decision-making tasks. This allows the investigation process to be informed by psychological studies of effective and ineffective decision-making. The evaluation of the evidence and leads available in an investigation will similarly benefit from thinking of this information as we would about scientific 'data'.

Investigation as decision-making

The decision-making tasks that constitute the investigation process can be derived from consideration of the sequence of activities that detectives follow, starting from the point at which a crime is committed through to the bringing of a case to court. As they progress through this sequence of activities, detectives reach choice points, at which they must identify the possibilities for action on the basis of the information they can obtain. For example, when a burglary is committed they may seek to match fingerprints found at the crime scene with known suspects. This is a relatively straightforward process of making inferences about the likely culprit from the information drawn from the fingerprints. The action of arresting and questioning the suspect follows from this inference.

However, in many cases the investigative process is not so straightforward. Detectives may not have such clear-cut information

A challenge facing police officers and researchers is to identify features most relevant to drawing inferences about the offender

but, for example, suspect that the style of the burglary is typical of one of a number of people they have arrested in the past. Or, in an even more complex example, they may infer from the disorder at a murder crime scene that the offender was a burglar disturbed in the act. These inferences will either lead them to seek other information or to select from a possible range of actions, including arresting and charging a likely suspect.

Investigative decision-making thus involves the identification and selection of options, such as possible suspects or lines of enquiry that will lead to the eventual narrowing down of the search process. Throughout this process detectives must gather the appropriate evidence to identify the perpetrator and prove their case in court.

A clear understanding of the investigation process as a series of decision-making tasks allows the challenges implicit in this process to be readily and appropriately identified. The main challenge to investigators is to make important decisions under considerable pressure and in circumstances that are often ambiguous. The events surrounding the decisions are likely to carry a great emotional charge and there may be other political and organisational stresses that also make objective judgements very difficult. A lot of information, much of which may be of unknown reliability, needs to be amassed and digested. In decision-making terms the investigative process can be represented as in Figure 11.1.

The manner in which
someone commits a crime
may alter over time

Investigators are often
under extreme pressure
and in ambiguous,
emotional situations when
they need to make
important decisions

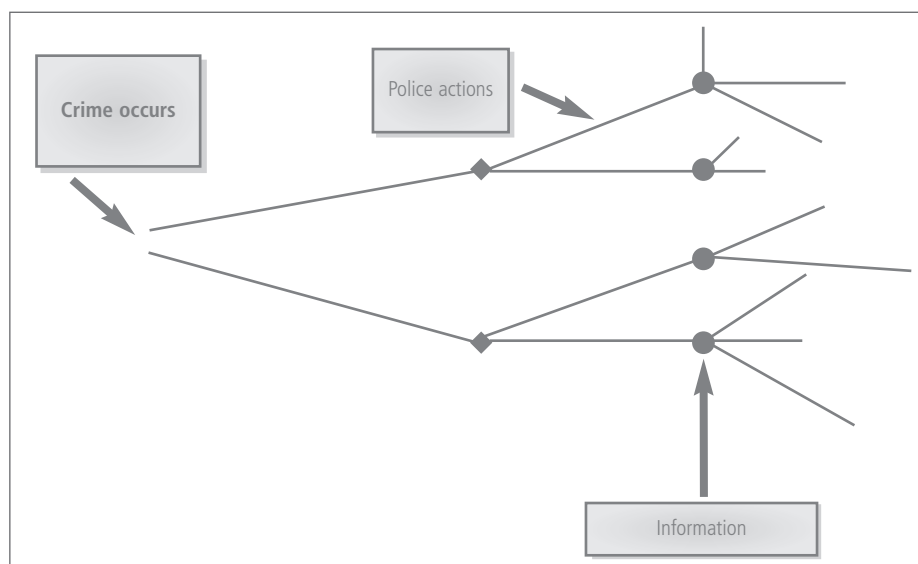


Figure 11.1 Process by which investigative information will rapidly accumulate

In this diagram the lines represent investigative actions by the police while the nodes are the results of those actions, i.e. new pieces of information or facts. Immediately after a crime occurs, detectives often have few leads to follow up. However, as they begin to investigate, information comes to light, opening up lines of enquiry. These produce more information, suggesting further directions for investigative action. The rapid build up of information in these first few days will often give rise to exponential increases in the cognitive load on detectives, reaching a maximum weight after some short period of time. At this point investigators will often be under considerable stress. Studies of human decision-making carried out by Flin, Slaven and Stewart (1996) in similarly stressful contexts, show that there are likely to be many heuristic biases and inefficiencies in decisions made under these sorts of conditions.

As the investigation progresses, detectives will eventually be able to start to narrow down their lines of enquiry by establishing facts that close off all but one of them, substantially reducing the general level of demand. The general diamond shape in Figure 11.2 represents the typical progression of an investigation. The diagram depicts the initial build up and then the subsequent narrowing down of the information (the nodes) under consideration and investigative steps related to these (the lines) as the investigation becomes increasingly focused to the point where an arrest occurs.

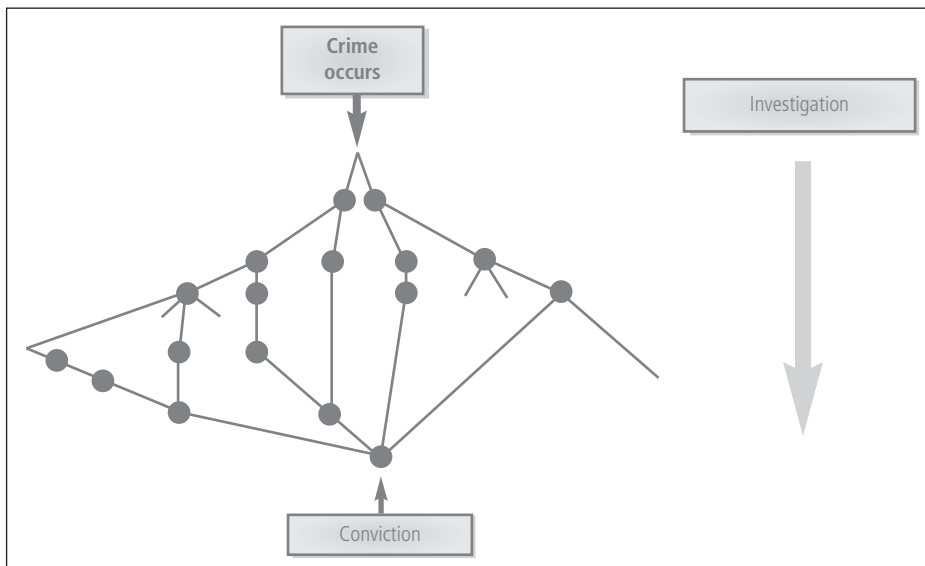


Figure 11.2 Schematic representation of investigative information and options over the full course of an investigation

Recognition of the potential effect of these problems can lead to the development of procedures to reduce their likelihood, including the management of resources. The complexity of the challenges made of police may also be reduced by the development of decision support tools that reduce the complexity of the information that needs to be understood, helps to visualise some aspects of it, and assists in the derivation of appropriate inferences from available material.

The capacity of humans to collate and organise information can be facilitated by a variety of means. One way is to provide visualisations of material. Human beings can often see patterns between associations and within activities if they can be presented in some form of visual summary. Bar charts of frequencies are one common example of this, but commercially available software can produce more sophisticated charts of networks of contacts, sequences of associations or actions, links to motor vehicles or places of employment, and the like, so that investigators are better able to understand the processes in which the crimes are embedded.

Decisions are also facilitated if extensive and disparate information can be described in summary form. A further level of support to police decisions can therefore be made by identifying the salient characteristics of the offences and offenders and by producing summary accounts of them. This may be the production of maps that indicate the locations where there are high frequencies of crimes, sometimes called criminal 'hot-spots'. In these cases the salient characteristics are simply where the crimes have occurred and the description consists of some summary or averaging of the crimes over an area in order to indicate where its geographical focus might be.

All description requires some selection, distillation or averaging of information and when that is done validly the description is helpful. Particularly useful to the police will be data on the relative commonness or rarity, among offenders generally, of actions in the crime they are investigating. As mentioned earlier, this 'base rate' information guides the investigator toward those most salient features of an offence that will be most relevant to the process of deriving inferences about that particular offender. Visualising the structure of the base rates and frequencies, for example with the aid of advanced statistical analyses, can thus be a powerful decision support tool for detectives.

Human decision-making is further facilitated by the identification of particular patterns within a mass of information. So, another level of support to police decision-makers can be given by carrying out some form of analysis on the crime material, typically looking for co-occurrences or discriminating non-occurrence. An example of the



>> Map of the Apies River, a place that has a history of murder

A 'crime hotspot' is an area where a crimes are frequently committed

Selection and distillation or averaging of crime information can be very helpful to investigators

Police can utilise psychological models to classify offenders, and to tailor their strategy in respect of the type of offender



>> The Yorkshire Ripper article: Part of a publicity campaign that overloaded the public information, hampering the investigation

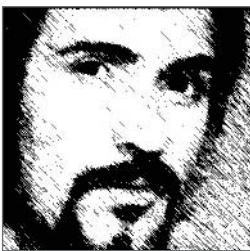
former would be the recognition that certain acts of vandalism occur shortly after the end of the school day near to schools. Knowledge from descriptive analyses of the age and backgrounds of offenders prosecuted for vandalism and the geographical hot-spot information could be combined to target possible culprits and introduce other forms of crime reduction. The various Investigative Psychological models of different behaviour patterns within crime types, such as the *Intruder*, *Pilferer*, *Raider* and *Invader* styles of burglary identified by Merry and Harsent (2000), are a more advanced form of this pattern analysis. Police can use such models to classify the offender they are seeking and tailor the investigative strategy to this particular type of offender.

Leads and evidence as data

Decisions clearly rely upon information. In a typical police investigation a mass of information accumulates. The sheer volume of information can reduce the effectiveness of an investigation, as happened in the Yorkshire Ripper enquiry in the UK or more recently in the inquiry into the murder of the English television journalist Jill Dando, or in the South African context, the search for the serial killer Moses Sithole.

ACTIVITY 11.4

Look for media articles (perhaps from the BBC website) on the murder of Jill Dando. Try to follow the two-year-long court case and critically evaluate the peripheral information in this case, e.g. how it hindered or facilitated proceedings.



>> Peter Sutcliffe: The 'Yorkshire Ripper'

This information comes from a variety of different sources. There may be photographs or other recordings of the crime scene. There may be records of other transactions such as bills or telephone calls. Increasingly there are records available within computer systems used by witnesses, victims or suspects. Often there will be witnesses to the crime or results of the crime will be available for examination. There may be transcripts of interviews or reports from various experts. Further, there will be information in police and other records that may be drawn upon to provide indications for action. Once suspects are identified there is further potential information about them, either directly from interviews with them, or indirectly through reports from others. In addition, there may be information from various experts that has to be understood and that may lead to specific actions.

Apart from being potentially overwhelming in terms of its sheer quantity, the information takes many different forms. It is slanted in

many different ways, having been either originally generated for other purposes, or distorted by human perception and memory processes, or, indeed, particular motives. Moreover, while the information available does have certain strengths (such as the fact that it may have been given under oath), it has not been collected with the careful controls of laboratory research. The information on which police rely in an investigation is therefore often incomplete, ambiguous and unreliable.

It is by conceptualising and treating this information as 'data', and the ways in which it is obtained as research processes, that psychologists can make a further broad class of contribution to investigative activity. Understanding it in this way allows us to use psychological principles and knowledge to evaluate and improve the information detectives need to progress an investigation or to back up a case in court. Two aspects of scientific data assessment are particularly relevant to investigative information: its usefulness and detail and its accuracy and validity.

Information collected when investigating crimes is typically overwhelming in terms of sheer quantity

ACTIVITY 11.5

Identify factors that you think can assist police in making decisions during investigations.

The usefulness and detail of the data

In the applied context the data must comprise information that is operationally useful. This is a criterion against which 'offender profilers' have often neglected to evaluate the advice they have given to police. An indication of the broad location where an offender could be living is a clear example of useful information to an investigator, but more subtle material such as how others may regard the offender or his/her likely skills and domestic circumstances may also be of value. On the other hand, intensive psychodynamic interpretations of the offender's motivations, that might only become available during in-depth therapeutic interviews, are less likely to be of direct assistance to police investigators.

It is also often crucial to the progress of an investigation that the information obtained has as much relevant detail as is possible. Psychologists have therefore helped to develop processes, especially for police interviews, that maximise the information obtained. A number of guidelines for interviews have been developed. The best known of these is referred to as the 'cognitive interview' developed by Fisher and Geiselman (1992), and is discussed in Chapter 4 of this book.

The accuracy and validity of the data

There are many contributions psychologists can make to the improvement of the accuracy and validity of the information available in an investigation. A number of formal validity assessment techniques have been developed to assess the truthfulness of witness accounts when no objective means of doing this are available. Most of these techniques are based on the assumption that honest accounts have identifiable characteristics that are different from fabricated accounts.

Psychologists can help to improve the accuracy and validity of information in an investigation

The most frequently used approach to statement validation is that developed by Undeutsch (1989), known as Statement Validity Analysis which draws upon detailed consideration of the content of a statement, a procedure referred to as Criteria Based Content Analysis. This procedure is discussed in Chapter 6 of this book.

Of course, when the suspect is the source, it is likely that he or she will deliberately provide invalid information. There are many objective, conventional police strategies for detecting deception, most obviously determining if the known facts contradict the suspect's claims, but behavioural and psycholinguistic cues to deception can also be helpful.

A number of researchers, most notably Paul Ekman (1992) have claimed that deception can be detected through consideration of these sorts of cues, which include self-manipulatory gestures, such as scratching and hesitancy of speech, as well as repetition and other account dysfluencies. However, other researchers are more skeptical as to the possibility of any generally available indexes of deception from the actions or words of the suspect during a police interview. The case for and against the use of non-verbal cues is reviewed in Chapter 6.

There is much more evidence to indicate that for many people there are psycho-physiological responses that may be indicators of false statements. The procedure for examining these responses is often referred to as a polygraph or 'lie detector'. In essence, this procedure records changes in the autonomic arousal system, i.e. emotional response. Such responses occur whenever a person perceives an emotionally significant stimulus. The most well-established indicator is when the respondent is asked to consider information that only the perpetrator would be aware of, known as the 'guilty knowledge' test.

A more controversial procedure is to ask 'control questions', that many people would find emotionally significant, in order to determine if they elicit responses that can be distinguished from those questions relating directly to the crime. However, in both these applications of psycho-physiological measures the most important element is the very careful interview procedure before measurements are made and during the process.

In general 'lie-detection' is more productive in supporting a claim of innocence than in providing proof of guilt. For this reason many jurisdictions do not allow 'lie detector' results to be presented as evidence in court. Its value in eliminating possible suspects is used in a variety of jurisdictions around the world. For a thorough review of the polygraph and 'lie detection' see Chapter 6 of this book.

In some investigations, the suspect may deny that he/she made a statement that has been attributed to him/her. In such cases, techniques based on the quantitative examination of the language used may be drawn upon to evaluate the claim. So, for instance, a forensic linguist may try to establish whether the use of particular nouns is typical of the suspect or not. Interestingly, however, indications are that the psychological components of written or verbal accounts, i.e. what is meant and how it is expressed, may be more useful in attributing authorship than the linguistic features, such as counts of particular words.

Sometimes the concern will be not with the veracity of the suspect's account but with that of an alleged victim. This can be an issue in cases of sexual or other abuse. In such cases the complainant is not a suspect, and the more intrusive processes of lie detection are rarely used. However, investigators can draw on studies of the circumstances under which such false allegations are made and use those as guidelines for more intensive examination of the circumstances. Whether or not this is a valid way of identifying false allegations is a topic awaiting further research.

Box 11.1

Over a 12-year period a violent rapist had been active across the south Auckland area of the North Island of New Zealand. Conventional police methods of interviewing known sex-offenders and seeking suggestions from the public had been unsuccessful even though the offender had committed at least 50 violent sexual assaults and had left forensic evidence in some cases from which DNA could be extracted. The investigating team then heard of a more scientific approach of working systematically through police records. This investigative psychology approach consisted of looking for people with a criminal background inferred from the way in which the crime was committed and the implicit knowledge the offender revealed about the possibilities for crime in the areas in which he was operating. Knowledge of the typical age range of offenders of these types of assaults was also drawn upon. Further, a careful consideration of the geographical distribution of the crimes was used to prioritise the areas in which the offender was hypothesised to be resident. The criteria of criminal



history, age and criminal experience, and base location were augmented by witness descriptions of the offender to give a framework for sifting through 1 717 possible suspects. DNA tests indicated that one of these was the culprit. When the police knocked on his door he said 'I've been waiting for you guys', indicating that he was surprised that it had taken the police so long to identify him. He admitted many crimes that the police had not initially linked to him. In total he is thought to have committed 234 serious crimes.



>> The Station strangler,
Avzal Norman Simons

Investigative psychology and offender profiling in South Africa

Investigative psychology, as set out in this chapter, is not – to the best of our knowledge – practised in South Africa. A number of universities have offered short courses from time to time in the related subject of offender profiling (specifically, the universities of Pretoria, Free State, Rhodes and Port Elizabeth). There is no formally accredited training in either investigative psychology or offender profiling in South Africa, though. The South African Police Service (SAPS) has established an 'Investigative Psychology Unit', but it is not clear to what extent the activities of this unit are in accord with the principles set out in this chapter.

A number of psychologists have practised (and continue to practise) as 'offender profilers', or as 'investigative psychologists', either working for or consulting with the SAPS. The best-known of these are probably Drs Micki Pistorius and Mark Welman. Dr Pistorius has written two books based on her six years of experience as a profiler with the SAPS (*Catch Me A Killer*, 2000, and *Strangers On The Street: Serial Homicide in South Africa*, 2002). Dr Welman heads the Rhodes University MTN Centre for Crime Prevention Studies, which was opened in 2000. Dr Welman has been a consultant in several criminal cases including the investigation into the murder of Brenda and Kia Fairhead, in 2000.

SUMMARY

- 1 Investigative psychology (IP) is the academic discipline that has emerged in response to the need for a more scientific basis to the 'offender profiling' advice given to investigators.
- 2 The challenge at the heart of IP is to resolve the Actions-Characteristics (A => C) equations, which relate the set of an offender's actions in a crime to the set of his/her characteristics, such that these characteristics can be reliably inferred in the investigation context when the offender is unknown.

- 3 Solving the $A \Rightarrow C$ equations requires an understanding of the theoretical basis for inferences about offender characteristics, as well as the extent and limits of criminal consistency and the basis for the differentiation of criminal behaviour.
- 4 Empirical studies are building a body of scientific knowledge in this area. This is increasingly allowing Investigative Psychologists to inform a variety of the operational challenges that investigators face in the course of their activities.
- 5 Psychological principles are being applied to the investigation process itself, to facilitate decision-making, and to evaluate the information upon which those decisions are based.

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EXERCISES

- 1 Read the following fictionalised description of a rapist and decide which role he has assigned to his victim. Explain the basis of your choice.

David rapes Jean after a university party. Afterwards, he apologises profusely, saying that he had not meant to hurt her, and offers her something to eat. He appears to empathise with her feelings, and even offers her a lift home. When she undergoes a physical examination, it is confirmed that he has not inflicted any bodily injury on her.
- 2 One complication we face when trying to make links between criminal characteristics and actions is that criminals change over time, both with respect to their actions and their characteristics. Outline five forms of change that are important to consider in this respect.
- 3 There are a number of types of operational question that police and other investigators typically face. Ten are identified in this chapter. Think of an example for each type, and how you would go about

obtaining an answer to the example questions you list if you were an investigative psychologist.

- 4 What is meant by the phrase 'profiling equations'? Explain the underlying principles of this approach to offender profiling.
- 5 Identify and explain a psychological framework that may aid police in a criminal investigation.
- 6 Define what a criminal 'hot-spot' is. Then think of South Africa, and try to draw up a list of geographical areas where crime is likely to occur, based either on your own experience or on published crime statistics (you can find some relevant data on the SAPS Internet site). What kinds of crime are committed in these areas?

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