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HISTORICAL FOUNDATIONS AND CURRENT
APPLICATIONS OF CRIMINAL PROFILING IN VIOLENT
CRIME INVESTIGATIONS

ABSTRACT. In many countries, such as Canada, police have been increasingly relying upon some form of criminal profiling to aid in their serial crime investigations. A criminal profiler is a psychological consultant or investigator who examines evidence from the crime scene, victims, and witnesses in an attempt to construct an accurate psychological (usually concerning psychopathology, personality, and behaviour) and demographic description of the individual who committed the crime. Although criminal profiling holds much potential as an investigative tool, the empirical foundations of profiling and its assumptions remain controversial. The present paper reviews two main approaches that have developed within the field of profiling: crime scene profiling and offender profiling. In addition, the development of new and innovative profiling approaches in the Canadian context is described. Our review concludes that a holistic approach that integrates aspects of the rational/deductive method developed by the Federal Bureau of Investigations and the empirical/inductive method developed primarily by investigative psychologists, may represent the most promising approach to criminal profiling. Possible avenues for future research are outlined.

Serial crimes of a sexual and/or homicidal nature continue to represent a major concern to the public. As evidenced in the Canadian context, violent behaviour by serial offenders can escalate to tragic proportions if they are not detected and apprehended as early as possible (e.g., Porter, Birt, Yuille and Herve, 2001). For example, between 1957 and 1981, Clifford Olsen was arrested 94 times for offences ranging from armed robbery to sexual assault. After numerous children and teenagers were murdered in British Columbia between November, 1980, and August, 1981, Olsen became a suspect and was arrested. Unfortunately, he was released and continued to murder children until he was apprehended for a second time. Olsen was eventually convicted of eleven counts of murder and sentenced to eleven concurrent life sentences. Another



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Canadian offender whose crimes continued to increase in violence over a lengthy period was Paul Bernardo, known as the “Scarborough rapist.” Bernardo sexually assaulted a large number of women in Ontario over the course of several years in the early 1990s. Although he was one of many suspects in the investigation, he was not arrested for several years and his violence escalated, culminating in the murder of three young women (Williams, 1996).

Both of these cases underscored the need for Canadian law enforcement agencies to adopt non-traditional techniques, such as criminal profiling, to help solve such devastating serial crimes. In fact, serial homicide is among the most difficult type of crime for police investigators to solve (e.g. O’ Reilly-Fleming, 1996), in part because victims are often strangers who (ostensibly) are apprehended at random. Although various definitions of serial homicide have been offered, a common conception is the killing of three or more people with a “cooling off” period between the killings (Holmes and Holmes, 1998). There are a number of factors present in a potential serial murder case that can make it particularly challenging to solve and may lead law enforcement officials to seek the services of a criminal profiler. For example, there is often no clear relationship between the killer and the victim, whereas in the majority of other cases of homicide the suspect and victim know one another (e.g., Correctional Service of Canada, 1995). Additionally, an obvious external motive typifying other homicides is either not present or difficult to determine in many serial homicide cases (Burgess and Hazelwood, 1995).

A common stereotype of a criminal “profiler” is of an insightful outsider or eccentric intellectual who can solve crimes by relying on a combination of intuition and keen insight into the criminal mind. While there may be an element of truth to this image, in reality a profiler is an investigator or consultant who analyzes information from the crime scene(s), victim(s), and any witnesses in an attempt to construct an accurate description of the individual who committed the crime (e.g., Geberth, 1996; Holmes and Holmes, 1996). The resulting classification or profile of the perpetrator may include psychopathological conditions, personality traits/disorders, behavioural patterns, and demographic characteristics. The production of this description is not intended to independently solve the crime,

but rather to complement other evidence and potentially reduce the field of suspects (which sometimes number in the hundreds or even thousands) in a case (Homant and Kennedy, 1998).

Internationally, two main approaches have developed: *crime scene profiling* and *offender profiling*. Although both have the common goals of making an inference about the perpetrator's characteristics and reducing the number of suspects, each has specific methods and ideologies. The current paper briefly traces the history of profiling and explores the parallels and divergences of these modern profiling approaches. Next, exciting new developments in the field of criminal profiling in Canada are outlined. Issues surrounding validity and ethics that have arisen around the use of criminal profiling (leading some researchers and investigative professionals to question its utility altogether) are considered. Finally, suggestions for future research are outlined to better validate and refine profiling for criminal investigations.

HISTORICAL HIGHLIGHTS

The documented history of profiling can be traced at least to the publication of the *Malleus Maleficarum*, a text from the late 1400s written by contractors to the Catholic Church for the purpose of accurately identifying and eradicating witches. Although based entirely on the authors' speculations and the religious dogma of the time, it was one of the first systematic approaches for identifying and making inferences about supposedly guilty individuals. In the late 1700s, Franz Gall introduced his now infamous science of phrenology, a means of assessing a person's psychological characteristics through inferential techniques. According to Gall, a person's mental capacity and personality could be reliably determined by studying the structure of the skull (e.g., Davies, 1995). He reasoned that specific areas of the brain were responsible for different mental functions, and that the visible bumps and contours of the skull revealed particular aspects of an individual's personality. Gall's phrenology included considerations of criminal propensities. Most notably, he argued that there was a "murder organ" present in murderers which was indicated by morphological features of the skull. In the nineteenth century, following from Gall's

theories, Italian criminologist Césare Lombroso (1876) authored *The Criminal Man*, in which he produced a typology of criminals based on race, age, gender, physical characteristics (e.g., forehead shape), education, and geographic region. Lombroso's goal was to determine the origins and motivations of criminal behaviour. He concluded that all criminals could be broken down into three major categories: born, insane, or criminaloid (the latter meaning they had a "weak nature" predisposing them to be swayed toward crime as a result of circumstance). One of Lombroso's most notorious notions was that there were eighteen physical characteristics indicative of criminals' subordinate development on the evolutionary scale (*atavism*) and leading to their proclivity to crime.

Not long after Lombroso proposed his misguided profile of criminals, a police surgeon involved with the investigation of Jack the Ripper's homicides in the late 1880s also engaged in a form of profiling. Dr. George Phillips attempted to create a reconstruction of various crime scenes and describe the wounds of the victims for the purpose of gaining a greater insight into the offender's psychological make-up. In particular, Phillips believed that a circumspect examination of the wound patterns of murder victims could provide clues about both the behaviour and personality of the offender who had committed the murder (e.g., Turvey, 1999). However, it was not until 1956 when psychiatrist James A. Brussels produced his profile of the New York "Mad Bomber" that profiling garnered considerable interest from both investigative professionals and the public. The report he provided to police was based on a psychoanalytic interpretation of the crime scene as well as an intensive study of the Bomber's letters (e.g., Wilson, Lincoln and Kocsis, 1997). Brussels turned out to be exceptionally prescient, predicting correctly that the Bomber would be a heavy, single, middle-aged man who would be wearing a double-breasted, neatly buttoned up suit when he was arrested. Although the use of psychoanalytic concepts in profiling is rarely seen today, the Mad Bomber prediction remains an interesting highlight in the development of profiling.

In 1972, the criminal profiling field was officially inaugurated by the Federal Bureau of Investigations (FBI) Behavioural Science Unit (BSU) after several cases of serial and mass homicides in the U.S. in the 1960s (e.g., the Boston Strangler, Richard Speck).

The apparent increase in serial homicides at this time placed a considerable demand on investigators from the public to solve these crimes as expeditiously as possible. This increased pressure prompted investigators to utilize all possible resources to track down and apprehend a suspect (Jackson and Bekerian, 1997). One agenda of the FBI in developing the field of criminal profiling was to help law enforcement professionals apprehend criminals by narrowing an often overwhelming list of suspects, or at least provide new avenues of inquiry (Homant and Kennedy, 1998). In addition, there were some embarrassing investigative failures that resulted from misguided attempts to describe the characteristics of serial offenders under investigation. For example, psychiatrists consulted during the Boston Strangler investigation concluded at one point in the investigation that the offender was actually a pair of homosexual males who despised their mothers, a far cry from the actual perpetrator, Albert DeSalvo.

Although profiling is now used in diverse contexts from organized crime investigations to hostage-taking situations, it is most commonly used in cases of serial homicide, arson, and sexually motivated crimes. In particular, profiling is thought to be applicable to crimes in which the offender has demonstrated some form of extreme psychopathology such as sadistic torture, ritualistic or bizarre behaviour, evisceration, and staging or acting out a fantasy (e.g. Pinizotto, 1984). Most commonly, the skills of a criminal profiler are utilized by law enforcement agencies investigating serial homicides. Although the number of serial murderers operating at any given time may be small, their crimes obviously have a severe impact on affected communities, causing a high level of fear, feelings of intimidation, and inhibition (O'Reilly-Fleming, 1996). Notably, in recent decades there has been a ten-fold increase in the number of known serial murder cases in the United States relative to the rate seen throughout the eighteenth and nineteenth centuries (Hickey, 1991).

After decades of essentially theory-driven (and often misguided) practice, empirical data regarding serial offenders have begun to accumulate to reveal particular behavioural patterns that may be useful in refining profiling practices. For example, information collected on 159 serial murders (internationally) from 1795 to 1988

revealed that the most common method used during the process of inflicting death was mutilation (55% of incidents) (Myers, Reccoppa, Burton and McElroy, 1993), followed by strangulation or suffocation (33% of incidents), and bludgeoning (25%). In general, serial killers seem to prefer a “hand’s on” method to commit a homicide (and only rarely use a gun to kill). The identification of such patterns is important in refining profiling techniques. For example, it is possible for researchers to compare the psychological characteristics of serial offenders who have used the various homicide techniques above.

Internationally, two different inferential approaches have been used in attempting to solve serial crimes. The primary distinction between these approaches described below is the investigative method that a profiler will choose to employ during an investigation.

CRIMINAL PROFILING

Criminal profiling seeks to objectively identify the major personality and behavioural characteristics of serial offenders based on a thorough analysis of the crimes that they have committed (e.g. Douglas, Ressler, Burgess and Hartman, 1986; Geberth, 1996). This approach is primarily based on techniques developed by the FBI’s Behavioral Science Unit in the 1970s. In order to develop criminal profiling, FBI investigators have studied characteristics of crime scenes and interviewed the incarcerated serial offenders themselves to construct offender typologies. Advocates of this criminal profiling approach recommend a consistent routine for investigators to follow in the process of their investigation. In the data assimilation phase, all available information is collected from as many sources as possible. The information may include police reports, autopsy reports, photographs of the crime scene, and the victim’s verbal report (in rape cases). During the crime classification phase, the offense is described based on the information that was collected during the data assimilation phase of the investigation. Next, the investigator attempts to reconstruct the crime characteristics such as the offending sequence, *modus operandi* (method of crime commission), and behaviour of the victim. The resolution of each of these issues is thought to provide critical information

for the final profile generation phase which considers demographic and physical characteristics, behavioural habits, and personality dynamics (e.g., Jackson, Herbrink and Van Koppen, 1997). The resulting profile can contain estimates of specific information such as type of vehicle, type of psychopathology, family history characteristics, educational and legal history, and habits and social interests (Jackson and Bekerian, 1997; McCann, 1992).

The FBI commenced its research into criminal profiling with a paper by Hazelwood and Douglas (1980) on homicidal sadists and lust murderers, which proposed the now well-known “organized/disorganized” dichotomy. Organized homicides were described as repetitive, well-planned, and executed “productions.” According to this perspective, organized murderers were believed to take pride in their acts, involve aspects of fantasy in their crime, commit sexual acts with the live victim, and display control of the victim. In contrast, disorganized murders were described as much more spontaneous, frenzied, bizarre and impulsive. A disorganized murderer often left a weapon at the scene, committed necrophiliac acts, and positioned or depersonalized the victim’s body. Hazelwood and Douglas (1980) posited that the personality of organized murderers would be methodological, cunning, and self-centered (i.e., similar to psychopathy; see Hart and Hare, 1997), while disorganized murderers would likely suffer from some form of severe psychopathology, usually a form of psychosis (e.g. Myers et al., 1993). In addition, Douglas et al. (1986) interviewed 36 convicted sexual murderers, and found that organized homicides were more than twice as common as disorganized homicides. They also concluded that the organized-disorganized dichotomy was not necessarily orthogonal, but that a homicide would often contain elements of both an organized and disorganized crime scene.

With this classification scheme, the FBI underscored the need for systematic crime scene classification. They proposed three main categories or distinctions that a profiler should consider in a crime scene (Douglas, Burgess, Burgess and Ressler, 1992). Investigators should be particularly interested in the modus operandi (M.O.), “signature”, and staging of a crime. The M.O. refers to the offender’s “method” of committing the crime and is thought to be learned or scripted behaviour that is intended to facilitate

successful completion of the crime (e.g., Turvey, 1999). Elements of the offender's signature at the crime scene are more personalized than the M.O., and often go beyond what is needed to perpetrate the crime. Researchers and investigators maintain that signature evidence is more important for linking crimes (and for developing an offender profile), as the offender's M.O. may change due to situational variables (e.g., Holmes and Holmes, 1998). The signature should, however, always be present after the "successful" crime commission. Indeed, it has been hypothesized that the offender's signature satisfies some deep psychological and emotional need of the criminal (e.g., Geberth, 1996). Further, the staging of a crime may represent a deliberate attempt by the offender to conceal the crime. Since it is common for an offender to attempt to mislead investigators, a profiler must be circumspect to determine if all the evidence makes sense within the context of the crime (Burgess, Prentky, Burgess, Douglas and Ressler, 1997).

FBI investigators have described their view of the key attributes of a successful criminal profiler (Hazelwood, Ressler, Depue and Douglas, 1995). First, they argue that the profiler must have a deep appreciation of the criminal mind as well as a basic understanding of human psychology. Secondly, they emphasize the importance of investigative experience, contending that no amount of education can replace the experience of having investigated crimes. For this reason, Hazelwood et al. (1995) have suggested that mental health professionals may not have qualifications to engage in profiling. However, it has also been suggested that the expertise of clinical (forensic) psychologists can contribute to the effectiveness of criminal profiling. Notably, other researchers have argued that mental health professionals (usually forensic psychologists or psychiatrists) who engage in "clinical" profiling may be more adept than others at identifying and inferring richer behavioural information relevant to a crime scene (e.g. Copson, Badcock, Boon and Britton, 1997). In fact, Gudjonsson and Copson (1997) reported that clinical profilers actually displayed better profiling accuracy (based on unqualified predictions) compared to other types of criminal profilers.

At present, it appears that there are several other significant limitations to the FBI profiling approach. Although the FBI has concluded that common sense and intuition, or the "art dimen-

sion” of profiling, are necessary to become a successful profiler, it is difficult to imagine how common sense can play a role in the investigation of most serial offenders and their crimes. In fact, serial crimes appear to often have been committed for complex reasons relating to psychopathology that are well beyond the realm of common sense or lay knowledge. The mistaken notion that “common sense” will allow a profiler to provide insights into the psychopathology of a serial offender is not the only conceptual problem with the FBI approach (e.g. Canter, 1995; Keppel and Walter, 1999; Wilson, Lincoln and Kocsis, 1997). The approach also appears to lack solid theoretical foundations. Although their proposed criminal analysis typology is based on an extensive range of crime scene indicators, the generation of profiles is essentially left up to the subjective interpretation of the profiler. FBI training agents often emphasize a profiling process that *encourages* the personal, subjective perspective of the investigator (Douglas et al., 1992).

Given this level of subjectivity, some researchers have observed that profilers often rely on little more than personal speculation (e.g. Homant and Kennedy, 1998). For example, Hazelwood et al. (1995) have proposed that there are four main types of rapists; the power reassurance rapist, power assertive rapist, anger retaliatory or sadistic rapist, and the opportunistic rapist. However, this typology is based only on investigative experience and observation and must be considered tentative until empirical studies are conducted to assess its validity. Further, it appears that investigators may sometimes reinforce and influence each other’s personal beliefs when developing a line of inquiry, even if this belief turns out to be incorrect (Alison and Canter, 1999). In addition, the FBI’s framework derives exclusively from crime data collected in North America, precluding considerations of possible culturally-specific patterns in criminal behaviour. Finally, there is little evidence for the FBI’s claim of a high success rate for its profiles. Their estimates of success typically derive from personal observations rather than empirical data (Blackburn, 1993). The media, of course, tend to report successful profiling cases, making it difficult to know the true usefulness of the technique (in terms of both false negatives and false positives). Some researchers (e.g. Copson, 1995) have suggested that FBI profiling has facilitated the identification of the

offender in as few as 3% of the cases in which it was implemented. Overall, without further research, the assumptions and generalizations of the FBI approach must be considered tentative. The FBI's crime scene analysis is a "top-down" approach to profiling that is founded on in-depth interviews with a restricted number of convicted murderers, and put into practice with the experience and subjectivity of homicide detectives. Nonetheless, it was this approach that served to highlight the need to conduct research and create typologies to refine investigative techniques.

Recent psychological research is contributing encouraging new results relevant to the field of criminal profiling. The following section highlights the promising psychological research being conducting on offender profiling.

OFFENDER PROFILING: CONTRIBUTIONS OF INVESTIGATIVE PSYCHOLOGY

From the perspective of the growing field of investigative psychology (an integration of investigation techniques with psychological concepts), *offender profiling* offers a major alternative or complement to the FBI profiling method. It is based on psychological theory and empirical research to assist law enforcement agencies with their investigations (Salfati and Canter, 1999). Although offender profiling appears to rely on some of the same source information as the FBI approach, it places this information within the context of psychological theory and empirical knowledge. Canter (2000) stressed that profiling should be a process of inferring characteristics of an offender from behaviours during the commission of a crime. However, a major distinction of this approach from the FBI profiling method is that these inferences should derive from sound empirical research rather than investigative experience only (e.g. Canter, 1995). Investigative psychologists have criticized many of the FBI's crime scene analysis methods (e.g., the organized-disorganized dichotomy is considered by some investigative psychologists as lacking any empirical evidence or even face validity). Serious questions about the generalizability of the FBI's initial sample upon which the majority of their theories have been based have also been raised within the field of investigative

psychology. Salfati and Canter (1999), for example, argued that because the FBI research was based on a sample of incarcerated murderers who volunteered for the research, it is likely that this group is not representative of most or all serial murderers.

Generally, the development of offender profiling is initiated by the proposal of a sound theoretical framework which is then tested empirically. Recently, Canter (1995) proposed an interpersonal model of serial homicide in which an offender will usually assign one of three roles to his victim during a crime. The offender will either treat the victim as an object (to be used and controlled through threats), a vehicle for their own emotional goals (usually includes extreme violence and abuse), or a person (attempts to create a pseudo-relationship). A recent study of 88 serial killers by Hodge (2000) provides preliminary support for this model. After examining 39 crime-related actions committed by his participants, Hodge concluded that the data supported the three assigned roles. Accordingly, one cluster of victims had been objectified, with the crime scenes often containing evidence of necrophilic activity, mutilation of the body, and no indicators that the victim was of emotional significance to the offender. Another cluster of victims appeared to have been treated as a "vehicle" and often were held captive, and subjected to excessively violent acts and extended brutality. The victims in the final group were treated as "persons" with whom the offender attempted to develop a relationship. These crimes included actions such as sexual intercourse, re-dressing of the victim after the assault, and an apparent personal interest in the victim that went beyond the body. Hodge's findings reveal that there may indeed be similar underlying themes in serial offending behaviour to help discriminate offenders.

Other recent psychological research also has revealed consistent trends in the crime scene behaviour of various offender types. Grubin, Kelly, and Ayis (1997) used cluster analysis to examine the offending styles of sexually violent offenders. Their examination of 470 cases of sexual assault committed by 210 offenders indicated that the actions within different offences committed by the same offenders were often highly consistent. In particular, offenders often showed behavioural consistency in their form of control, nature of the sexual activities, mode of escape, and overall nature of the crime.

Salfati and Canter (1999) also found that offender characteristics related in the predicted way to the different crime scene styles. In particular, their analysis revealed that criminal actions were clearly associated with elements of the offence history. For example, if an offender used extreme violence while committing a rape, he was substantially more likely to already have a conviction for violent rape.

In summary, recent advances within the field of offender profiling founded squarely on empirical research have shown encouraging results for the continuing development and refinement of profiling in violent crime cases.

RECENT PROFILING ADVANCEMENTS IN THE CANADIAN CONTEXT

In recent years, there has been a substantial amount of effort in Canada devoted to the development of both new innovative profiling approaches and to scientific research relevant to understanding and investigating violent crime. Canadian police forces such as the Royal Canadian Mounted Police have begun to utilize the advantages of modern computer technology and other profiling tools. As mentioned, the use of criminal profiling became a serious consideration after Clifford Olsen was apprehended for murdering eleven children over a nine-month period. This and other cases led to the formation of more advanced investigative tools such as the computer-based Violent Crime Linkage Analysis System (VICLAS) and geographic profiling.

One of the current authors was recently conducting a dangerousness assessment on a serial rapist for the National Parole Board of Canada. According to the offender's file information, he had been first apprehended (with no criminal record) after committing a violent, near fatal sexual assault on a teenage girl in British Columbia. One year after he began serving his three-year sentence, he was charged with the rape of several other young women across Western Canada over a period of several years. Although he had not been a suspect during the original investigations of any of these crimes, one idiosyncratic behaviour he exhibited during his current (known) offense was matched to his other offenses with a Cana-

dian criminal profiling system: VICLAS. VICLAS was developed to allow the detailed documentation of all solved and unsolved homicides, sexual assaults, missing persons, and unidentified bodies if the death was known or suspected to be a homicide. This new program has adopted features of various crime linkage databases to create an improved analytical system. There is currently a server in every Canadian province, with each database linked to a main server in Ottawa. During the investigative process, an investigator completes a booklet specifically designed for VICLAS that covers more than two hundred aspects of the incident including victim characteristics, M.O., forensics, and behavioural information. To ensure standardized efficient data collection, the booklet questions were specifically designed to eliminate as many open-ended questions as possible. Next, the case is entered into the VICLAS computer system where an investigator begins an analytical process to identify any possible linkages between crimes committed locally or in other provinces. Finally, any confirmed linkages are put into a "series" which indicates that at least two possible linkages have already been made between crimes.

It has been approximately six years since the official implementation of VICLAS in Canada. As of 2000, there were more than 30,000 cases in the system, and although there was no official statistics on its success rate, there were 3200 known linkages, and 1100 series (www.rcmp-grc.gc.ca/html/viclas-e.htm, October, 2000). Although it is clear that more research is needed to examine the efficacy of the system, anecdotal evidence suggests that it holds much promise for the future of profiling. In fact, a number of other countries have already communicated interest in the adoption of the system. Although the RCMP has been reluctant to open their VICLAS files for psychological research (for security reasons), it recently created a Board of Advisory Consultants including forensic psychologists and psychiatrists from across the country (including one of the current authors). These psychiatrists and psychologists will be advising the RCMP on the types of research that could most benefit their investigations. With such a massive dataset of information concerning solved and unsolved violent crimes, this approach has the potential to contribute greatly to improving profiling technology.

Geographic profiling is another potentially valuable Canadian addition to the field of profiling. It is a computer-based empirical system developed by Dr. Kim Rossmo (a police officer with the Vancouver Police Department) that generalizes from linked crime scene locations to provide a statistical estimate of the probable residence or base of operations of an unknown offender. This form of profiling can be conceived of as a sort of “mental map” of the crime-relevant areas where the offender may feel comfortable or possibly reside (Rossmo, 1997). The geographic profile is constructed after the preparation of a psychological profile, with everything from possible bus routes to travel times being considered. Rossmo developed this system of geographic profiling and the underlying criminal geographic targeting (CGT) model while conducting doctoral research at Simon Fraser University. The results of this initial research project provided evidence for the validity of the CGT model, based on a large sample of serial murder cases (Rossmo, 1997). The main goal of CGT is to enable police investigators to focus their efforts on those areas which are most likely to lead to a successful apprehension of the offender (Rossmo, 1996). Therefore, a unique computer system “Rigel,” was created specifically to analyze all of the offender’s applicable geographical information, and produce a three-dimensional value map to highlight the most probable locations of the offender’s residence. The system incorporates research findings from a variety of fields including geography, mathematical modeling, criminal investigation and environmental psychology. A well constructed geographic profile may influence or help develop new investigative strategies or help to manage the large volume of information typically involved in any major crime investigation (Rossmo, 1996). Canter and Gregory (1994) proposed a similar theory based on geographic characteristics that suggests that offenders will often only operate within a limited conceptual or physical space. They have proposed that there are two main geographic types of offenders: the “commuter” and the “marauder.” The commuter will travel various distances to commit their crimes, while the marauder usually likes to operate out of or close to home. A greater understanding of an offenders’ spatial patterns and “crime space” should be considered an important research objective (Rossmo, 1996). Again, although this system

showed promise with the original database of solved serial crimes, further (cross-validation) research is needed to evaluate the strengths and possible shortcomings of Rossmo's system.

One of the most empirically-validated and potentially useful psychological constructs for profiling the characteristics of criminal offenders is psychopathy. Although the subject of an international research effort, much of the ground-breaking research on psychopathy has come out of Canada, particularly from the lab of Robert Hare and his colleagues (e.g., Hare, 1993). Psychopathy is a devastating personality disorder associated with a variety of affective, behavioural, and interpersonal symptoms. A general definition of a psychopath is an asocial, aggressive, and highly impulsive person, who feels little or no guilt and is unable to form lasting bonds with other human beings. Researchers have found that individuals who are considered to be psychopathic will consistently engage in a diverse range of antisocial behaviour (e.g. Hart and Hare, 1997; Simourd and Hodge, 2000). Furthermore, psychopathy is considered to be a strong indicator of future criminal and violent behaviour (Hare, 1993; Hemphill, Hare and Wong, 1998). Finally, psychopathy is associated with a higher level of violent and general criminal recidivism, as well as failure during treatment (Rice, Harris and Cormier, 1992; Serin, 1991; Seto and Barbaree, 1999). The Psychopathy Check-List Revised (PCL-R) was created by Hare (1991) as measurement tool to help diagnose psychopathic individuals. It is based on a semi-structured clinical interview, as well as all available file information. Both inter-rater reliability and internal consistency are high, and there is substantial evidence to suggest that it is a highly valid measurement tool (e.g., Hart and Hare, 1997). A recent paper by Porter, Fairweather, et al. (2000) also found that the personality characteristics of psychopathic sex offenders were related to the type of sexual assaults that they were likely to commit. Psychopathic offenders were more likely to engage in a diverse amount of sexual offences (rape and child molesting), whereas non-psychopathic individuals were more likely to engage in one type of sexual offending such as child molesting. Porter et al. (2000) concluded that sexual violence by psychopathic individuals is associated with particular patterns in terms of motivation (such as thrill-seeking, gratuitousness, and sadism), behavior (such

as diverse types of sexual offending), and severity levels (degree of harm), relative to other types of criminals. They argued for the validity of the concept of a *sexual psychopath* – a type of criminal whose thrill-seeking (rather than paraphilia) is directed at diverse sexual victims. The construct of psychopathy has the potential to assist criminal investigators in a number of ways. For example, if investigators determine from a number of linked crime scenes that they are likely dealing with a psychopathic individual, they can begin to focus the investigation and better predict the future behaviour of the suspect.

PROFILING: CONCERNS REGARDING VALIDITY AND FUTURE DIRECTIONS

The key question for law enforcement agencies is: does profiling work? As mentioned, a number of researchers (and occasionally law enforcement officials) have questioned the validity of profiling (e.g. Copson, 1995; Jackson and Bekerian, 1997). A common criticism is that the majority of current assumptions concerning profiling practices have not been tested empirically. In fact, an article by the authors of the Crime Classification Manual admitted that there was currently no systematic evidence to validate the classifications that they had proposed (Douglas et al., 1992). Some researchers caution that profiling is still at such an early stage in its development that there is a need to assume, and even expect, that a significant number of mistakes will occur (e.g. Canter, 1998). Currently, most criminal justice systems do not allow profiling evidence to be admitted into the courtroom. For example, in the British case *R v Colin Stagg* (1994), Justice Ognall remarked (in obiter) that profiling evidence was not well enough established as a scientific method to be considered in expert evidence. As mentioned, one purpose of profiling is to reduce the field of possible suspects in a case. Of course, it is possible that an inaccurate profile could have precisely the opposite effect; a profiler's erroneous interpretation may lead investigators in completely the wrong direction, as it did in the Boston Strangler case. Police officers may not have any background in science, and may know little about alternative hypothesis testing (e.g., Canter, 2000). In addition, profiling has been criticized for

being only reductive rather than productive, as it narrows the field of suspects without being able to specifically identify the perpetrator. Liebert (1986) has argued that trying to reduce something like serial murder to a few observable features can lead the investigation astray.

It is difficult to determine the true validity of profiling as it is much more likely that an accurate profile will be reported by investigators (e.g., Wilson et al., 1997). Nonetheless, whatever the accuracy rate, it has been suggested that a profiler may offer benefits regardless of how closely the final profile matches the offender. These include the generation of additional investigative suggestions and strategies and advice on interviewing techniques (e.g. Jackson et al., 1997). Further, the profiler can be conceived of as another knowledgeable person who can examine a given case from a different perspective. It is also important to keep in mind the many demands that are placed on profilers. For example, they must develop an accurate profile while dealing with possible false confessions, copy-cat crimes, public fear, media interest, political pressure, personnel logistics, multiple agency coordination, and resource and cost issues (Egger, 1984).

Small number of studies have attempted to study the validity of profiling empirically rather than anecdotally. A recent study by Kocsis, Irwin, Hayes and Nunn (2000) examined the performance of professional profilers compared to various other groups (police officers, psychologists, science and economics university students, psychics, and a group of other university students). Each group (except the "other student" group) studied a comprehensive report of a homicide and then wrote a detailed description of the person. Participants also completed a multiple-choice questionnaire, and a personality assessment of the offender. The remaining student group was used to examine the stereotypical profile of a homicide offender. They also completed all of the steps, but did not actually see the homicide report. The principal police officer who investigated the case provided the correct information with which responses from each group were compared. Results indicated that although there was no difference in overall accuracy between each of the particular groups, a significant difference was found between the group of "profilers" and the groups of "non-profilers." In addition, psychologists were more accurate than the police officers in

the accurate identification of psychological characteristics of the offender. Further, all groups (except psychics) performed better than the group who produced a profile based on current stereotypes. The psychics seemed to use nothing more than social stereotypes and performed poorly overall. The finding that the “profilers” did appear to have better profiling skills than the other groups (combined) suggests that profilers are a potentially useful addition to criminal investigations.

While much criticism has been leveled at profiling techniques, there clearly is a need for such an investigative tool to help law enforcement professionals improve their investigations. For example, cases such as the still unsolved Green River murders in Seattle (49 prostitute victims) highlight the need for improved methods of investigation. At one point, police had over 18000 names and 8000 pieces of evidence in their Green River suspect file. In addition, it has been estimated that there are as many as 35 serial killers active at any time in the U.S. alone (e.g. Geberth, 1996). There is still a need for more empirically based studies within the field of profiling that examine both the theories and usefulness of this potentially beneficial approach. Indeed, research should now begin to focus on possible differences between individuals who commit the same type of crime in different ways. For example, psychopathic individuals may have different motivations for their violent crimes (e.g. Cornell et al., 1996; Pollock, 1999). Psychopaths are thought to commit more instrumental or ‘goal-driven’ crime than non-psychopathic individuals who commit more reactive, or ‘anger-based’ crime. Researchers could examine this theory by reviewing evidence from both the crime scene and descriptions of the crime as a function of psychopathy. A better understanding of the motivation and violence characteristics displayed by offenders with personality disorders such as psychopathy will aid investigators with their crime investigations, and increase their knowledge regarding the behaviour and personality of the offender they are attempting to apprehend. This could be one step toward assigning different investigative priorities to potential suspects based on empirical research. Researchers are also discovering that it may be possible to narrow the list of possible suspects

based on what was done to the victim during the commission of the crime (e.g. Canter, 2000).

To help increase the validity and reliability of criminal profiling, research should begin to focus on areas that have traditionally not been considered as important for criminal investigations. Holmes and Holmes (1996) suggested that it would be beneficial to consider the wealth of information that surviving victims of violence could provide for profilers. To date, there are virtually no studies that have attempted to examine the potential benefits of profiling various victim characteristics or reports that could provide crucial information to assist researchers and investigators. Another potential avenue for increasing the effectiveness of profiling would be to examine not only the characteristics of solved profiling cases, but to also determine if there are any particular characteristics that define cases that have remained unsolved. For example, Mott (1999) examined crime-scene information from 75 unsolved serial murder cases and compared them to 399 cases of solved serial murder cases. The results indicated that in unsolved cases the victim was more likely to be highly vulnerable, and the rate of killings was slower than in solved cases. A better understanding of what areas of the crime investigation are most difficult and demanding could aid investigators trying to determine where to focus their investigative efforts. Individuals who are practicing current profiling methods also need to ensure that they are constantly refining and improving their area of expertise. For example, although the area of geographic profiling is considered to be a useful approach, it is not currently useful for studying "migrant" killers (e.g., Henry Lee Lucas in the U.S.) who constantly move around and have no actual home base. The challenge for investigators and researchers in the area of geographic profiling is to now come up with a method to incorporate migrant offenders into the geographic profiling framework.

As mentioned earlier, some cases and studies have shown that the majority of criminal profiles did provide a clearer focus for the investigation process. However, the challenge still remains to convince skeptical researchers and investigators that profilers are "better than bartenders" (Campbell, 1976). This quote belies the view that many profilers may not have a better conception about who committed a particular crime than the layperson. Such views can be

reinforced by profilers themselves who make obvious or non-unique predictions, such as predicting that a murder was motivated by an irresistible impulse. If this characteristic is typically associated with murder, it is essentially meaningless for an investigation. Additional research should at the very least ensure that the personal opinion of experts will have some empirical basis for implicating someone as a prime suspect in a crime.

A combination of the FBI's method of profiling and the empirical and inductive method proposed by investigative psychologists may lead to increased reliability and validity for profiling. Indeed, recent Canadian investigative tools such as geographic profiling and VICLAS incorporate this holistic approach. In addition, some studies have begun to utilize a combination of both empirical and deductive methods of profiling (although the majority of profiling theories remain untested). However, it is clear that further research is needed to improve profiling technology. Ultimately, increased attention from social scientists on the topic of serial offending and serial offense investigations, and an improved relationship between psychology and law enforcement could lead to the apprehension of many dangerous criminals who would otherwise remain free and continue to perpetrate violent crimes.

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