

# Critical review on the topic of criminal profiling



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It's about time. Although psychologists and investigators have studied crime and human behavior in the context of criminal profiling for many decades, it is only in the last 20 years that we have seen a steady increase in research and application. Finally, there are serious attempts to build theories and vigorously scrutinize and test research. This paper intended to provide a feel for the development of the different methodologies of criminal profiling and the severe scrutiny and criticism that it had to endure during this time. An understanding is provided of the current research activities, limitations, and issues in the successful practical application of the various processes. It should become clear that criminal profiling has an exciting and valuable future, if steps proposed in the study are implemented to establish the acceptance of profiling as a valid, reliable and accurate scientific tool in criminal investigation and legal processes.

Farrington aptly stated, " The time is ripe to mount a major research agenda." (2007, p. 487). These holistic and interfunctional efforts have to include standardization of quality and best practices, building reasoning and analysis skills, providing training and education and establishing intensive peer review and scientific screening systems.

It is in the wider and more integrative application of behavioral analysis principles and models that tangible value could be added to investigation processes and outcomes. " The criminal profile in isolation might be accurate, but do not really contribute to catching the suspect."

(Labuschagne, 2010). The criminal profile should be one step in a rigorous and systematic process of behavioral evidence analysis.

## **What is criminal profiling?**

Criminal or offender profiling is a set of techniques and approaches aimed at predicting the characteristics of an unknown offender by investigating and analyzing evidence from the crime and crime scene. By scrutinizing the crime scene, the profiler aims to predict the criminal's personality, behavioral and demographic characteristics in order to limit the suspect pool and identify likely future behavior patterns. The process of criminal profiling hinges on determining aspects of the cause-effect relationship between the crime scene, victim, witness and possible perpetrator.

## **Origins of criminal profiling**

According to Winerman (2004), informal criminal profiling has a long history. Its first reported use was in the 1880s when crime scene clues were used to predict personality characteristics of British serial murderer, Jack the Ripper. Until much later investigators relied on their own intuition and informal studies and it was only in the 1950s that criminal profiling gained recognition in the United States. The Mad Bomber terrorized New York City between 1940 and 1956 and James Brussel studied crime scene evidence, including photographs and letters and compiled a detailed description of the likely offender, which incidentally turned out to be uncanny in its accuracy after the arrest of George Metesky in January 1957 (Brussel, 1968).

In 1974, the FBI formed the Behavioral Science Unit to investigate and analyze serial homicide and rape cases (Winerman, 2004). Their efforts in the first couple of years focused on interviewing serial murders, categorizing the data and building theories based on different types of offenders. At this stage, the basis of a profile centered on classifying the offender as organized

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or disorganized with associated personality, demographic, socioeconomic, intelligence and educational characteristics and behavior patterns.

It is important to note that the FBI team at the time did not comprise of psychologists and a school of thought developed that criticized the FBI's reasoning in terms of methodological flaws and unscientific logic. Rather than relying solely on investigating experience, the scientific and academic community believed that the technique of criminal profiling could benefit from new scientific approaches. Much of this work comes from applied psychologist, David Canter, who founded the field on investigative psychology in the early 1990s at the University of Liverpool.

## **Development of criminal profiling techniques**

With the development of criminal profiling in the past few years, two main general approaches have taken shape, namely the FBI model of criminal behavioral analysis and the psychosocial or investigative psychology model developed at the University of Liverpool (Devery, 2009). In general, the FBI model relies more on the judgment of experienced investigators, intuitive thinking, deductive reasoning and pattern identification, while investigative psychology utilizes " analytical databases of offender characteristics and behavior and the application of multivariate statistics" (Devery, 2009, p. 9).

The FBI's crime scene analysis approach consists of six steps, namely (1) profiling input where all crime scene evidence is collected, (2) decision process models where evidence is arranged to identify possible patterns and commonalities, (3) crime assessment where the crime is reconstructed and each aspect's role is determined, (4) criminal profile where all previous

analyses are combined to define the most likely characteristics of the offender, (5) investigation where the profile is utilized by investigators to narrow the suspect pool and search areas, and (6) apprehension, where a suspect is identified, investigated, interviewed, and, depending on the evidence, arrested and tried (Dowden, Bennell & Bloomfield, 2007).

The investigative psychology approach to criminal profiling was developed by David Canter and utilized inductive investigation techniques whereby psychological concepts have been incorporated to develop criminal profiles (Ainsworth, 1999). Investigative psychology aspires to apply empirical research, statistical analysis techniques and logical inference instead of subjective processes to establish a field of scientific psychology that can distinguish between offenders and offences in a valid and reliable way (Canter, 2004).

According to Butod (2009), investigative psychology is principally based on the framework labeled the five-factor model. The first factor is interpersonal coherence and assumes a link or association between the offender and victim or a person symbolized or characterized by the victim. The second factor is the significance of time and place and crime locations could provide clues to the comfort zone, mobility, movement patterns and schedule and place of residence and work of the offender. The third factor is criminal characteristics where possible suspects are identified based on offender categories and crime classifications. Criminal career is the fourth factor and refers to the probability that the offender has committed similar crimes in the past, including progression of time, type and severity. The fifth and last factor in the investigative psychology process is forensic awareness, which

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considers the offender's awareness and knowledge of crime scene analysis and investigation techniques.

In addition to the two most dominant approaches to criminal profiling, Brent Turvey created the behavioral evidence analysis method where forensic evidence, crime scene characteristics and victimology are combined and analyzed to provide a rough character sketch of the likely offender. Turvey's approach is similar to the FBI model, but relies more on evidence from the specific crime and less on statistical generalizations (Devery, 2009).

### **Usefulness of criminal profiling**

The objective of criminal profiling is to provide a process-thinking framework supported by dynamic data and research that enable investigators to utilize patterns and characteristics of a crime and offender in order to limit suspects and result in the apprehension of the criminal. Of great importance is the validity, reliability and accuracy of the criminal profiling process and outcome, as these factors impact on the probability and timing of an arrest or other resolution, investigative resources and costs, possibility of wrongful arrests, as well as ethical issues that are relevant in the functioning of the criminal profiling environment. These issues include the following (Gale, 2005):

Lack of standardization and uniformity of practice and guidelines, such as the ethical guidelines of the American Psychological Association (2002).

Lack of common standards for confidentiality and sharing of information.

Differences in mandate between role-players involved in profiling activities.

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Lack of educational and training requirements for profilers.

No acceptable measurement or review of competency.

There is no question that the development of criminal profiling in the scientific realm has made great strides in the recent past and will continue to do so in future. Validity research and the pool of knowledge are fast approaching a critical mass and the expanding scientific base and increasing availability of high standard education in this specialty field hold great promise for the usefulness of criminal profiling in future, while maintaining the multidisciplinary processes required to analyze complex behavioral patterns.

### **Controversy: The classic debate**

The history and development of criminal profiling have been fascinating and tumultuous and has dealt with fragmentation, rivalry and scrutiny (Petherick, 2007). Not only is there fierce rivalry between the proponents of the main methodologies of criminal profiling and the two principle philosophies of inductive and deductive investigation, but opponents of criminal profiling in general are voracious about their skepticism that the techniques are even valid and useful.

Gonzalez (2008) described criminal profiling as a “ pseudo-science that hasn’t met the reliability of bona fide experiential authenticity” (para. 1). According to critics, the biggest liability of criminal profiling is the inaccuracy and unreliability of information, which is putting the specialty field in disrepute amongst professionals and creates questions around its usefulness. Gonzalez (2008) further stated, “ credible data is woefully

deficient” and the “ predictions are vague, general and superficial” (para. 7). Snook, Cullen, Taylor and Gendreau (2008) reckoned that criminal profiling is based on false typologies and not based on empirically supported theory, which creates an inappropriate reliance on the predictions or profiles. These issues might cause various practical and ethical problems in practice, namely (1) an inaccurate or ambiguous profile could derail an investigation and cause unnecessary delays, (2) it might introduce a bias towards a wrong suspect, group of suspects or geographical area, (3) focus in the investigation might be put on wrong attributes of the suspect or crime, and (4) the wrong suspects might be harassed or arrested based on an inappropriate profile. The only reference to the undisputed successful use of criminal profiling to affect an arrest in a well-publicized case was Arthur Shawcross. Baeza (2008) wrote, “ Arguably, this may be one of the only cases in which profiling actually assisted in the apprehension of an offender.” (para. 10).

Hopefully the debate will remain healthy and contribute to the growth in scientific and peer reviewed research in order to provide valid conclusions based on logic and reasoning and will set the stage for a promising future in criminal profiling applications.

## **Research studies**

Due to the immense popularity of criminal profiling for the general public and academic fraternity, research activity has ballooned in recent years, although concerns persisted that study designs and conclusions remained unspecific and unscientific (Dowden, Bennell & Bloomfield, 2007). The present study includes a short synopsis below on significant reviews, <https://assignbuster.com/critical-review-on-the-topic-of-criminal-profiling/>



qualitative and quantitative research and meta-analytical studies published recently.

## **Literature review**

Dowden, Bennell and Bloomfield (2007) also stated their concern about the level of scientific inquiry in published research studies covering criminal profiling and behavioral analysis, as well as difficulty with knowledge integration due to the wide platform of publication. A literature review was done based on the content analysis of 132 articles published over a 31-year period to evaluate the “ statistical sophistication” (p. 44), main emphasis, frequency and author affiliation. Dowden, Bennell and Bloomfield (2007) concluded that despite the fact that the popularity of criminal profiling has increased exponentially, criminal profiling has become a standard investigative tool in many law enforcement jurisdictions, has slowly found its way into legal proceedings and experienced significant growth in research and publications, several concerns still remained:

Researchers rarely publish multiple articles.

Articles are published across many journals and other media.

The majority of articles is discussion pieces or based on a basic assumption with little empirical, theoretical or statistical support.

Although articles were mostly peer reviewed since 1995, more than 50% contained no statistical analyses at all.

In order for criminal profiling to be viewed as a legitimate scientific field of study that could be applied accurately, reliably and with proven validity in

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investigative and legal practices, these concerns have to be addressed in future research.

## **Qualitative research**

Many qualitative research studies have been published in recent years, covering a multitude of aspects and subareas of criminal profiling.

The first example is a descriptive study covering serial killers in Germany between 1945 and 1995 (Harbort & Mokros, 2001). The research investigated the characteristics of 61 serial murderers, including socio-demographics, family background and status, social activity, intellectual ability and personality disorders, with the objective to identify common traits and behavior patterns. Data were collected from prosecution case files, psychological and medical reports, police files, court transcripts and relevant literature and other printed media. A total of 232 variables were identified representing all characteristics describing the offender, victim-offender relationship and crime-scene activities. Several interesting correlates were highlighted (p. 319):

The IQ range was not normally distributed, but skewed towards a range higher than 100, indicating an above average intelligence for the research sample.

Despite the higher intellectual ability, the majority of subjects failed at school and in employment.

Of the research subjects, 80% experienced disturbed parent-child relations and just less than half were physically abused in the home or faced family members abusing alcohol.

Just fewer than 40% of offenders were unemployed at the time of offense, while 34% were manual laborers.

A high number of offenders (85%) experienced a lack of social integration.

Criminal records were present in 79% of the offenders' past.

Almost 90% of offenders were diagnosed with a personality disorder, with antisocial (29%), mixed (17%) and borderline (14%) personality disorders the most common.

Nearly 60% of offenders changed one or more aspects of their modus operandi, especially between the first and second offense in a series.

Only 13% of offenders targeted a particular victim type, 18% killed victims of either gender, and 23% killed both children and adults.

Signatures did not seem to be as common as expected with only 22% of the sample exhibiting signature behavior.

It is evident from the conclusions that offender characteristics were less differentiated and shared significant common traits, but behavior patterns were far more difficult to generalize and predict, as different aspects of the crime were too dynamic to have statistical significance.

The second qualitative study analyzed the behavior of serial sex offenders with the objective to devise a descriptive model specific to the hunting process for use in crime prevention and offender profiling (Beauregard, Rossmo & Proulx, 2007). A sample of 69 serial sex offenders incarcerated in Canada was selected and data collected from police investigative reports and in-depth semi-structured interviews. A rational choice perspective was applied and nine phases identified to describe the offender's hunting process, including routine activities, choice of hunting field, victim selection, method of approach, attack location choice, method to move victims to the crime scene, crime location choice, method to commit the crime and victim release location choice. A descriptive diagram was compiled that highlighted the sequence of choices in the hunting process of the serial sex offender. The study concluded that the modus operandi were a dynamic process influenced more by situational factors than personal characteristics and therefore was in principle aligned with the general outcome of the study by Harbort and Mokros (2001). The rational choice model could complement crime prevention strategies, offender profiling, treatment programs and further research into behavioral analysis and the underlying theoretical principles. Several limitations were noted; including a small sample size, reliance on retrospective self-reports and sample homogeneity in various aspects, including gender, race and arrest status.

The third study selected for discussion included comprehensive qualitative and quantitative analyses of the process and content involved in developing criminal profiles (Petherick, 2007). A sample of 49 profilers was employed in the study with an excess of 3, 000 individual variables utilized in the

combined profiles. The main and overriding conclusion was that the “ vast majority of profilers employ either research or personal belief in forming their opinions, and that physical evidence is used the least in justifying a profiler’s opinion” (p. x). The research by Petherick (2007) again echoed the concern that despite the broadening of the application of criminal profiling, there was still little support for the technique as a valid and scientific investigative tool (p. 188). Other concerns and limitations were also raised, including incomplete profiles, varying quality and no common standard, statistical significant variable outliers, no justification for many characteristics offered and little integration of physical evidence into the profile to ensure useful and accurate advice.

## **Quantitative research**

Quantitative analyses are often used in subset aspects of criminal profiling in order to statistically quantify offender characteristics or behavioral patterns.

An example is a study by Vaughn, DeLisi, Beaver and Howard (2008) aimed at constructing a methodology to typify different burglar classes. The sample comprised of 456 adult burglars and data were collected during bond interviews. The burglars were divided into four classes, namely young versatile, vagrants, drug-oriented and sexual predators and a comparative analysis was done across the demographic and offense characteristics. The study found statistically significant differences in the characteristics and behavior between the different burglar types, including motive, movement, use of violence, type and frequency of other offenses and development of criminal career. This and similar studies could complement profiling and

investigative efforts, crime prevention strategies, rehabilitative treatment and recidivism prevention.

Canter, Coffey, Huntley and Missen (2000) tested the effectiveness of Dragnet, a geographical decision support tool, for locating the home base for 70 serial killers in the United States. The average search cost was found to be 11% of the defined search area, with 87% of subjects based in the first 25%. Digital offense maps were drawn for solved cases where the crime data, location and home base of the offender were known. Data was collected by utilizing investigative reports and public records. All specific locations of interest were noted, including body disposal sites, primary crime scene location and point of abduction or first contact. The relevant data points were entered into Dragnet and all home bases were found to be within the output search area. Probability functions were then applied in the model to reduce the search area and on average 11% of the original area had to be searched to locate the offender's home base. These results were very promising as no topographical information or buffer zone was input, which could lead to a further reduction in search area possibilities. The results proved that an offender's choice of locations could be modeled by relatively simple mathematics and complement the " understanding of the geography of criminal behavior" (p. 476).

Another quantitative analysis was done by Quinet (2007) to mathematically estimate the number of serial murder victims in the United States by including reported missing, unidentified dead persons and others not reported missing and extrapolating these numbers to provide upper and lower estimates of possible victims. By assuming an upper and lower

proportion of missing, unidentified and misidentified dead persons that could have been victims of serial murderers, as well as high risk individuals that could have fallen prey to serial murderers without being reported missing, Quinet (2007) reasoned that the number of annual serial killer victims in the United States could be between 182 and 1, 832. The assumptions are however somewhat baseless and imprecise and therefore usefulness and validity of the study is questioned.

Several researchers have also conducted quantitative studies that attempted to evaluate the accuracy of criminal profiles, including Alison, Smith and Morgan (2002) and Kocsis, Middledorp and Karpin (2008). Two sets of profiles, one real and the other fabricated, were given to 33 senior police officers and 30 criminal profilers to evaluate (Alison, Smith & Morgan, 2002). Although all profiles included ambiguous statements regarding the offender, more than 75% of the subjects rated the profiles as at least somewhat accurate and more than 50% as very accurate. There was not statistical difference in the ratings between the real and fabricated profiles. The study concluded that individuals “ tend to construct meaning around ambiguous statements” (p. 185) as it is not conceived to be unusual in criminal profiles. These “ artfully generalized character statements” (Rowland, 2002, p. 41) are known as Barnum statements and these and other ambiguities and vagaries should be avoided in profiles. Kocsis, Middledorp and Karpin (2008) agreed that accuracy of criminal profiles remained an issue that tainted its reputation and usefulness, but contended that profilers were more accurate than non-profilers and, if constructed with scientific methodology and content, criminal profiles could assist in the resolution of crimes (p. 260).

## **Meta-analytical study**

Snook, Eastwood, Gendreau, Goggin and Cullen (2007) conducted a meta-analysis on 130 previously published criminal profiling research studies in order to determine the statistical relevance of the sources of knowledge, methods of evidence integration and analytical processes applied. The study concluded that anecdotal, authority and testimonials provided the vast majority of knowledge, which is in nature non-scientific. A small margin of just under 20% of sources was considered scientific or empirical, confirming the casting of doubt over profiling techniques for being an art rather than science, inconclusive, unreliable and inaccurate.

Where the sources of knowledge were considered largely non-scientific, the majority of the methods applied for the analysis and integration of information were found to be based on scientific principles. These methods included causality complex, statistical expectation, nomothetic focus, covariation consequences and probabilistic terms and accounted for about 70% of the information manipulation methods used in the research studies considered.

The scientific content in the analytical processing of data was again in stark contrast with the methods of information integration and only accounted for just more than 25% of methods applied, including surveys, experimental and correlational. Hindsight and self-serving bias, illusory correlates and ad hoc ergo propter hoc (false logic that because one event followed another, it was caused by the prior event) provided the bigger impetus for data analyses and formulation of conclusions.



In summary, Snook, Eastwood, Gendreau, Goggin and Cullen (2007) concluded that the majority of research studies on criminal profiling utilized mostly non-scientific methods to gather and analyze information, often resulting in ambiguous and incorrect conclusions.

### **The development of supportive techniques**

There is a growing impetus to improve the scientific foundations of criminal profiling and build a theoretical understanding of the many aspects thereof in order to substantiate the validity of the process. In order to facilitate this complex and daunting exercise, all differentiations of criminal profiling are researched and developed to integrate into an effective tool to define and predict criminal behavior and characteristics. These differentiations are behavioral, statistical/actuarial, geographical profiling, crime scene, psychological and offender profiling. Recent developments are mostly in the areas of statistical research to build and improve actuarial prediction models and correlations, conceptualizing and testing heuristic models to standardize and advance crime scene analysis and exploring geographic profiling solutions.

Turvey (2008) recently developed a criminal profiling technique called Behavioral Evidence Analysis (BEA) in response to concerns regarding the scientific validity of profiling methodologies. The BEA consists of analyzing the crime in four distinct steps, namely equivocal forensic analysis, victimology, crime scene characteristics and offender characteristics. More evidence is placed on a comprehensive analysis of physical evidence, the victim's characteristics and behavior and crime scene characteristics, including geoprofiles, physical staging, signatures and offender-victim

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interaction. The final step, offender profiling, is the result of the previous three steps and a predictive sketch of offender characteristics and behavior is produced to narrow the suspect pool.

Statistical and actuarial research has become increasingly important in providing the scientific backbone for criminal profiling, but its relevance is questioned due to statistical limitations such as small sample sizes and the validity to generalize and statistically correlate and model human behavior and other characteristics (Turvey, 1998)

Geographic profiling is an investigative aid that predicts the offender's most likely locations, including home, work, social venues and travel routes, and could be employed in any case involving serial offenses. Geographic profiling was designed to compliment criminal profiling as an investigative support technique and assist with limiting the load of information that serial crime cases generate and thereby focusing the investigation by prioritizing suspects and locations (Rossmo, 1998). The process is based on an analysis of the locations of a connected series of offences, the characteristics of the neighborhoods in which they have occurred, and the psychological profile of the offender, in an attempt to determine the most probable areas in which the offender might reside or work.

### **The future of criminal profiling**

Despite the fierce criticism and claims that the typology and methodologies are flawed (Gladwell, 2007), rendering criminal profiling of limited usefulness in terms of validity, reliability and accuracy, the underlying principles are sound and need to be reassessed and rejuvenated. Indiscriminate and

inductive profiling have to be avoided at all cost and researchers and profilers need to return to the drawing board and adhere to principles founded on behavioral science and sound decision-making. Personal beliefs and biases, group experience and thinking, generalization and small-scale research have to be set aside to rebuild a holistic process of deductive reasoning. Farrington stated very succinctly that “ the time is ripe to mount a major research agenda” (2007, p. 487). These efforts should include a streamlined and widely participated peer review process, standardization of quality and best practices in criminal profiling and improved training and education in criminal profiling, crime scene analysis and related skills.

In closing, Gladwell (2007) stated, “ The whole business is a lot more complicated than the FBI imagined.” Human behavior is a complex and dynamic result of many forces and is not suitable for generalization, interpolation and statistical manipulation. For criminal profiling to be accepted and established as a legitimate scientific practice in investigative processes and the courtroom, the art of profiling has to be truly integrated into a theoretical model and its value assessed rigorously in an evidence-based sense.