

Criminal Psychology: Investigative Techniques and Their Role in Modern Law Enforcement

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ABSTRACT

Criminal psychology is the sphere of activity joining psychology and law, the knowledge of which enables one to take into account the offender's behavior and assist the investigative efforts. This paper discusses some core investigative methods-psychological profiling, behavioral analysis, cognitive interviewing, and psychophysiology-and discusses how these investigative tools are put into practice, their effectiveness, and their ethical implications. By examining both the historical and state-of-the-art developments, this research puts special emphasis on the interdisciplinary relationship between psychology and the police. The case studies and methodological critiques bring into focus the refinement in these techniques, necessary for justice and also to prevent recidivism. The findings point out the need for increased training and integration of psychological expertise in dealing with crime.

Keywords: *Criminal Psychology, Forensic Psychology, Psychological Profiling, Cognitive Interviewing, Behavioral Analysis*

Criminal psychology is more commonly referred to as forensic psychology: the meeting point of psychology and law for the understanding and solution of socially deviant behaviors known as crimes. Criminal psychology describes the motives, states of mind, and behavior of the criminal committing a crime; thus, it gives vital information to law enforcement, legal professionals, and policymakers. By integrating psychological principles with the legal framework, criminal psychology enhances our competence to understand and prevent criminal acts, while at the same time enhancing investigative and judicial procedures. The techniques of psychological profiling, behavioral analysis, cognitive interviewing, among others, have been widely used and become such an integral part in solving puzzling cases, shrinking suspect pools, and even predicting future crimes.

The historical development within criminal psychology is indebted to pioneering works of individuals such as Hans Gross and Cesare Lombroso. Gross is popularly viewed as the father of criminal psychology, impressing upon the importance of behavioral evidence in crime solving. Gross introduced systematic approaches to understanding criminal actions using psychological principles in his seminal work, "*Criminal Investigation: A Practical Handbook for Magistrates, Police Officers, and Lawyers*". Gross's works were pioneering in

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the sense that the psychological insights were, for the first time, put to work in the service of investigations into crime, laying the foundation for what is nowadays known as forensic psychology.

In the controversial theory of criminal typology, "*L'uomo delinquent*" in 1876, Cesare Lombroso propounded that there are physical and physiological signs that can display one's predisposition toward criminality. Although his work has been received with criticism because of its deterministic approach, lacking any substantial empirical support, the theories anyway gained momentum in debates related to the biological and psychological underpinnings of criminal behavior.

From its more theoretical roots, the field has considerably changed and adapted to new approaches and technologies. For instance, cognitive interviewing, as put forward by Fisher and Geiselman (1992), has received immense popularity due to its being an exceptionally thriving approach toward gathering strong witness testimonies. Techniques such as context reinstatement and open-ended inquiries with this approach make it easier to recall memories while reducing contamination of memory and inaccuracies within them.

Similarly, another set of tools in attempts to miners of physiological responses associated with lying or deception has evolved through forensic psychophysiology, one of which is the polygraph. For example, Marston (1917) invented the first polygraph test for monitoring the physiological changes, including altered blood pressure, in relation to an individual's deception about interrogated matters. Still shrouded by controversy due to questions over its reliability and ethical concerns, the polygraph is still used nowadays in present-day investigations and employment screenings.

The sophistication of modern criminal offenses necessitates a collaboration of psychologists, law enforcement agencies, forensic experts, and legal experts. It is the effective integration of knowledge about the science of psychology with traditional investigative methods that can enable not only the accuracy but also the speed of a criminal investigation. This paper critically discusses some critical investigative techniques-which are psychological profiling, behavioral analysis, cognitive interviewing, and forensic psychophysiology-outlining their practical applications and ethical considerations. The present study points out the strengths, limitations, and challenges of these methods in order to address how law enforcement can take a holistic approach that capitalizes on the strengths of several disciplines.

LITERATURE REVIEW

Historical Foundations:

Criminal psychology is indebted to the very early works that paved the way for the application of psychological principles in criminal investigations.

Hans Gross, also known as the father of criminal psychology, wrote in his milestone book "*Criminal Investigation: A Practical Handbook for Magistrates, Police Officers, and Lawyers*" that the solution to crimes depends on the behavioral evidence, which is possible only with a scientific approach, adding the dimension of psychological aspects. Gross underlined his methods to understand criminal behavior further than physical evidence and thus gave birth to modern investigative practices.

The controversial concept of criminal typology was first brought about through the work of Cesare Lombroso, "*L' uomo delinquent*", in 1876. It had stated that specific physical and

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physiological characteristics in an individual predisposed him or her towards crime. While much critique has been raised against the deterministic approach created by Lombroso because of its being highly oversimplified and its complete lack of evidence, he initiated a series of discussions regarding the biological and psychological origin of deviant behavior. It would be the inspiration for future research and the development of forensic psychology in relation to those studies.

This idea was advanced further by Hugo Münsterberg, whose book “*On the Witness Stand*”, published in 1923, engaged the world of psychological factors in the courtroom. Münsterberg showed that human memories were frail and impressed with suggestions, and psychologically coerced in the course of the legal process. At the same time, however, his insights provided a base from which to consider ways that cognitive biases and mistakes can be made in eyewitness testimony-some of the most critical problems in criminal investigations today.

Other serious contributions came from William Marston, who, in 1917, proposed the polygraph test. What Marston had tried to do in his contributions was to correlate some physiological changes, such as blood pressure, with deception during interrogation. Indeed, this was a milestone in forensic psychophysiology, with debates about its reliability and ethical implications continuing to shape modern uses of the technique in investigations.

Contemporary Techniques:

Advances in criminal psychology have developed some sophisticated methodologies that seek to enhance the accuracy and efficiency of investigations. These techniques make use of psychological principles combined with empirical research in an effort to provide insight into criminal behaviors and cognitions within the decision-making process.

a. Psychological Profiling:

Actually, profiling is done by building offender profiles from the evidence on the crime scene, victimology, and behavioral constructs through the work of the FBI's Behavioral Analysis Unit. The method recently came into the limelight with numerous high-profile cases, including the Unabomber investigation, in which profiling assisted in shrinking the suspect list. Application of this technique remains highly controversial due to the potential subjectivity and confirmation bias and generally limited empirical validation. As stated by Kocsis (2007), despite these challenges, profiling provides valuable leads in those cases also where limited physical evidence has been found.

b. Behavioral Analysis:

Behavioral analysis, therefore, is performed by analyzing the offender's behaviors and decisions, right down to his modus operandi. This approach utilizes several psychological theories in deducing underlying motives, affective states, and personalities associated with the criminal behavior. Research, as pointed out by Turvey (2011), has inherently recognized behavioral analysis as very helpful in making correlates of crimes which otherwise would appear unrelated, especially in serial offenders.

c. Cognitive Interviewing:

Cognitive interviewing was developed by Fisher and Geiselman in 1992 as a method to facilitate more accurate recollections by witnesses. This technique applies methods of context reinstatement, open-ended questioning, and active listening to improve memory recall. Since leading questions and contamination of memory are totally avoided, cognitive interviewing has been one of the popular techniques for collecting reliable testimonies. Memon et al.'s

study, in the year 2010, further confirmed the effectiveness of it to indicate that the recall of witnesses was significantly enhanced when this interrogative technique was employed as compared to the rest of the interrogation techniques.

d. Forensic Psychophysiology:

Forensic psychophysiology uses different types of instruments, such as polygraph tests, in determining the deception through physiological reactions of the suspect, like heartbeat, blood pressure, and respiratory rate. Whereas polygraph examinations are indeed very popular in both investigative and employment contexts, the reliability and ethical implications have raised a considerable level of debate. Some critics contend that the physiological responses may be predetermined by factors unrelated to the actual deception, but due to stress or anxiety, hence a chance for potential false positives. However, with such limitations, the polygraph has remained a very useful supplemental tool in specific investigative situations.

METHODOLOGY

Research Design

A qualitative approach has been followed to explore the subtlety in applications of investigative techniques in real life. This method shall best facilitate an in-depth understanding of psychological applications in criminal investigations.

Data Collection

Primary sources included peer-reviewed articles, case studies, and legal documents. PsycINFO and Google Scholar were used to conduct extensive literature reviews. Popular investigations case studies provided practical examples of how the techniques discussed were effective.

Data Analysis

Thematic analysis was then implemented to identify patterns and themes from the data collected, allowing for a robust analysis of the findings. Ethical considerations were necessary, as a balance had to be struck between investigative efficiency and human rights concerns.

Case Studies:

a. Cyanide Mohan

Mohan Kumar, alias "Cyanide Mohan," was convicted in the murder of 20 women from India. The modus operandi involved psychological denial and manipulation and the exploitation of his victims' vulnerabilities. Mohan targeted unmarried women, luring them with the offer of marriage. He would first gain their confidence, following which he would force them to consume cyanide pills on the pretext that these were contraceptives.

In this case, behavioral analysis played a very important role in attaching the murders to Mohan. There was a consistency in the cases: similar means of isolation and killing of victims. It was through this consistency in behavior that the identification and subsequent arrest were possible. The premeditated means which Mohan employed, together with the way he could convincingly get others to trust him, were important underpinnings in how psychological insights about offenders and their behaviors were used to narrow leads in investigations. His case remains a high-profile example of how behavior analysis can help identify key patterns in serial crimes.

b. The Nithari Killers:

A series of the Nithari killings in India unraveled one such horrible crime—a businessman by the name Moninder Singh Pandher and assistance from his domestic servant, Surinder Koli. The case came into the limelight when several children in the Nithari village of Noida were reported missing. The remains of the poor children were found clogging the drain near the residence of Pandher, which raised a huge public outcry.

Detailed profiling and forensic evidence played the most imperative role in the unraveling of these crimes. Profilers pointed out that Surinder Koli had psychopathic tendencies, was devoid of empathy, and had impulsive behaviour—the acts involved luring the victims into the house, murdering them, and even eating parts of their bodies in some cases. It was by collaboration within the inter-disciplinary departments of forensic experts and psychologists that the decoding of motivations and states of mind of Koli were made possible.

The investigators also analyzed the socio-environmental factors leading Koli and Pandher to the respective actions and how their roles in the crimes interplayed. Koli's psychopathology and Pandher's alleged complicity underlined the need to understand the levels of individual and system factors in this complex case. The factors involved here range from a review of psychopathological tendencies and alleged aiding and abetting. The case serves as an example of how the integration of psychological profiling, coupled with forensic methodologies, effectively applies.

c. Death by an Ayurvedic Practitioner:

Devendra Sharma, an Ayurvedic practitioner, was convicted for a series of murders and illegal organ trade operations. His crimes involved killing victims and disposing of their bodies in crocodile-infested waterways to eliminate evidence. Additionally, Sharma orchestrated an illegal kidney transplant racket, reportedly performing over 125 unlawful procedures.

Forensic psychophysiology and behavioral analysis were instrumental in uncovering Sharma's network of crimes. Polygraph tests revealed inconsistencies in his statements, leading investigators to probe deeper into his activities. Behavioral analysis further indicated that Sharma displayed traits of callousness and an ability to compartmentalize his criminal actions from his professional identity as a healer.

The case highlighted how offenders often exploit their positions of trust to facilitate their crimes. The use of forensic techniques not only helped establish Sharma's guilt but also exposed the larger criminal network he operated within. This case underscores the importance of forensic psychophysiology in uncovering hidden criminal activities and the broader implications of behavioral analysis in understanding the motivations of such offenders.

DISCUSSION

Strengths and Limitations

Investigative techniques in the context of criminal psychology indeed have increased law enforcement agencies' capabilities to try to make some sense out of criminal conducts and act upon them. These, however, are not without their inherent strengths and limitations, respectively.

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a. Psychological Profiling:

Psychological profiling does provide crucial information on the motive, personality, and behavior of the offenders. This method proves highly helpful in investigations dealing with serial offender cases where the trend of behavior and decision-making might lead to the narrowing down of suspect groups. Profiling has been proven to help identify and apprehend criminal offenders in many high-profile cases, such as the Unabomber investigation.

Profiling helps, but generally, profiling is done based on subjective inferences of the profiler, thereby raising questions about the technique's validity and reliability. Evidence to this effect shows that the biases and assumptions of a profiler sometimes lead investigations off target or misallocate resources or accusations wrongly against someone (Canter, 1994). Nor is this a generally applicable area since profiling depends a lot on the expertise of an individual profiler and specifics of the case.

b. Cognitive Interviewing:

Cognitive interviewing enhances the validity of testimonies given by witnesses through memory retrieval procedures such as context reinstatement and open-ended questioning. This reduces contamination of memory; as proven by Memon et al. in 2010, it significantly outperforms recall from traditional interrogation methods.

Though effective in obtaining results, cognitive interviewing requires very expensive training and time. Thus, it is not practical for everyday use when pressure is high. Besides, its success depends on the cognitive abilities and willingness of the witness, which can vary greatly among people.

c. Forensic Psychophysiology: The Polygraph Records

Forensic psychophysiology, in particular polygraph testing, uses a biological approach for lie detection through heart rate and skin conductivity. There have been instances where these have proven to detect deception in helping other forms of evidence validate the effect.

As much as polygraph tests face numerous criticisms, the physiological responses could be linked to other factors apart from deception, such as stress, anxiety, or even medical conditions. Other studies identified false positives and false negatives as crucial limitations challenging their value as independent evidence in support or in defense.

Ethical Considerations:

Ethics form the foundation of any application of investigative techniques, particularly intrusive or potentially coercive ones.

a. Polygraph Testing and Narco-Analysis:

While investigating, techniques like polygraph tests and narco-analysis have gained wide application. However, ethics stands in the way with these techniques, where personal and psychological privacy is widely invaded. Such invasion of privacy by the probing agency is definitely unconstitutional, as is quite well explained by the Indian Supreme Court in the case of *Selvi v. State of Karnataka*, which came in the year 2010, held that forcing narco-analysis, polygraph tests, or brain-mapping on an individual violates fundamental rights, including protection against self-incrimination under Article 20(3) of the Indian Constitution. It explained that these tests could only be conducted with the consent of the subject, keeping in view the actual necessity in investigation and the preservation of individual liberty. (*Selvi v. State of Karnataka*, 2010).

b. Right to Privacy and Psychological Integrity:

The use of narco-analysis and polygraph tests may also amount to a violation of the right to privacy and psychological integrity, which is part of the right to life and personal liberty under Article 21 of the Indian Constitution. Further, there are ethical issues that include the inaccuracy of these techniques and the potential for their misuse. The need to ensure that the use of such techniques does not deny any person their human right has necessitated the NHRC to appeal for strict conformation to ethical guidelines NHRC, 2000.

c. Practical and Professional Ethics:

The investigators and psychologists involved in using these methods should adhere to professional ethics and make sure that no violation will occur with regards to individual rights. Having therefore the dual responsibility to attain justice with ethical considerations implies a very careful evaluation of the application and its impact for every technique applied.

This, of course, means that ethical considerations will strike a proper balance between individual rights, which are seen to be respected, with the demands of the criminal investigation being catered to. In fact, it is quite cardinal that robust legal frameworks and guidelines should be developed so that human dignity is protected along with effective crime investigation.

CONCLUSION

Criminal investigations have come a long way, and their face has totally changed with the application of aspects of psychology. Techniques like psychological profiling, behavioral analysis, cognitive interviewing, and forensic psychophysiology allow investigators to learn more about the motives, patterns, and decision-making processes of offenders. These techniques will no doubt lend immense value to solving complex crimes, identifying suspects, and delivering predictions about future criminal behavior, hence offering better policing efficiency.

Application of these techniques effectively requires an approach from many ends. For one thing, rigorous training of police personnel is highly essential so that the investigating techniques give accurate results. Interdisciplinary collaboration among psychologists, forensic experts, and legal experts can enrich further the investigation process by fostering a comprehensive understanding of criminal behavior from multiple perspectives.

Equally important is the need for ethical vigilance. While polygraph tests and narco-analysis tend to serve a potentially valuable purpose, there are disquieting questions about their reliability, violation of human rights, and constitutional safeguards. The 'informed consent' by the accused, adherence to an ethical code, and striking a balance between investigative benefits and individual liberties pose a tall order for upholding justice and fairness.

While there are many challenges in the field of criminal psychology, this is also a field that holds much future potential in contributing toward the safety and justice of society. Overcoming limitations, innovating in practices, and devotion to ethical procedures will continue the growth in the discipline, enabling it not only to provide efficient methods of combating crime but also one's worthy of respect toward human beings and their rights. The way forward will be one of advances in technique, above all, but further, absolute respect for the principles of justice and human rights.

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Conflict of Interest

The author(s) declared no conflict of interest.

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