

# The Role of Criminal Psychology in Crime Prevention and Justice Delivery

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*Abstract- When it comes to the law, crime has not ever been legal. All offenses have a mind in them that thought or felt or has otherwise failed to function properly to commit the offense, and all reactions to the offense have a system of investigators and lawyers and judges and correctional officers trying to decipher that mind. The area in which criminal psychology falls lies between these two realities. It considers the nature of offending, their thinking and how to use their thinking to help prevent offending and to serve them and the wider community justice. This paper discusses the development of the discipline from the "positivist" criminology of the 19th century to the present day of neuroscience and AI-based risk assessment tools, and how these tools are applied in four areas: criminal investigation and profiling; risk assessment and prevention; courtroom and sentencing decisions; and offender rehabilitation. Recommends changing the approach to justice from one of merely "what" to "who" and "why" and cautions, yet, that criminal psychological tools are probabilistic, culturally specific, and can be misused if not used with safeguards. It concludes with an examination of the Indian criminal justice system, where forensic psychology is slowly becoming institutionalized, and suggestions for its further institutionalization, strengthening and ethical incorporation into police, judicial and corrections systems.*

**Keywords:** Criminal Psychology, Forensic Psychology, Crime Prevention, Offender Profiling, Risk Assessment, Rehabilitation, Restorative Justice, Criminal Responsibility, Juvenile Justice, Recidivism.

## I. INTRODUCTION

All laws eventually come to a point where they come into conflict with each other on this question: why did this person do this in this case? Criminal law is designed to categorize behavior, theft, assault, homicide, and to impose penalties for it. On its own, it is far less capable of an explanation of how one perceives, feels and decides before acting. This

explanatory role has become more and more the domain of psychology.

Criminal psychology, the study of the thoughts, intentions, actions and reactions of criminals and the psychological principles that can be used in the justice process, is the applied psychology branch sometimes mistakenly interchangeably called forensic psychology.

Forensic psychology encompasses criminal psychology and the use of psychological science in all legal contexts, such as custody proceedings and civil litigation, while criminal psychology is limited to criminal behaviour and its implications in the criminal justice system.

The difference is less important for this paper than the common theme of both disciplines: The human being, including the criminal, acts in a manner that can be studied, measured and in part predicted.

This paper is organised around a simple observation. Criminal psychology can contribute to the three broad functions of the criminal justice system: prevention, investigation, and management of offenders after conviction. The conceptual boundaries of the field are outlined in Section 2.

History of development is covered in Section 3. The key theories of crime are explored in Section 4. Practical applications in investigation, prevention and courtroom decision-making are explored in Sections 5-7, respectively. The last section 8 is concerned with rehabilitation and the treatment of offenders.

Short case studies are provided in Section 9 for illustrative purposes. In Section 10, students will examine emerging technologies and the ethical issues

they pose. The discussion is placed in the context of Indian legal system in Section 11 and Section 12 ends with observations on the constraints and the future trajectory of the field.

## II. CONCEPTUAL FRAMEWORK: WHAT CRIMINAL PSYCHOLOGY STUDIES

There are really 4 related questions that criminal psychology seeks to answer. First, what are the factors influencing the individual to commit crime? First, what is the reason of why people do commit crime? Secondly, what are the methods for using psychological principles to select suspects, interrogate them and assess their evidence (e.g., eyewitness evidence)? Third, what should be the role of the legal system in determining the guilt and punishment of an offender and/or whether he should be released, based on his state of mind, competence, and risk of reoffending? Fourth, what psychological treatments are likely to make an offender less likely to repeat his or her behavior?

These four questions align more or less with the four practical domains discussed in subsequent parts of this paper: causation and theory, investigation, adjudication, and rehabilitation.

It should be pointed out at the beginning that there is no one overall theory of criminal psychology. It's more like a toolkit, actually, that draws from a number of psychological fields, such as biological, psychodynamic, behavioral, cognitive, developmental, and social psychology, which all address a part of criminal behavior, but no one field has a complete grasp of what criminal behavior is.

The same applies to medicine - not all doctors can cure all diseases, not all psychologies can explain all kinds of crime, impulsive assault, organised financial fraud, compulsive sexual offending.

## III. HISTORICAL DEVELOPMENT OF CRIMINAL PSYCHOLOGY

The systematic study of the criminal mind began with the Italian physician Cesare Lombroso, in his 1876 book *Criminal Man*, which stated that criminals were "throwbacks" whose physical characteristics, like

cranasymmetry and jaw shape, made them easy to identify. Lombroso's methodology has since been thoroughly discredited, and his ideas are now read mainly as a historical curiosity that illustrates how easily scientific authority can be misused to justify prejudice.

Yet his broader contribution — the insistence that crime could be studied empirically rather than treated purely as a matter of sin or free will — opened the door to the positivist school of criminology, carried forward by contemporaries such as Enrico Ferri, who emphasised social and economic causes of crime alongside biological ones, and Raffaele Garofalo, who attempted to define a "natural crime" rooted in a violation of shared moral sentiment.

A psychodynamic shift occurred in the early 20th century. In an unconscious effort to atone and get some relief from guilt, some criminals commit offenses for which there is no material gain, according to Sigmund Freud. Followers such as August Aichhorn applied psychoanalytic ideas directly to juvenile delinquents, arguing that a weak or poorly formed superego left some young people without the internal restraints most people rely on to avoid antisocial conduct.

John Bowlby's study of forty-four juvenile thieves extended this line of thinking by connecting early maternal separation to later delinquency, laying groundwork for what would become attachment theory.

Mid-century behaviourism offered a very different account. B. F. Skinner argued that behaviour, criminal or otherwise, is shaped by its consequences: actions that are rewarded tend to be repeated, and actions that are punished tend to be suppressed.

Albert Bandura extended this into social learning theory, showing experimentally that people, and especially children, learn aggressive behaviour by observing and imitating others, particularly when that behaviour appears to be rewarded.

Edwin Sutherland's differential association theory, developed slightly earlier from a sociological angle but psychologically compatible with Bandura's later

work, held that criminal behaviour is learned through interaction with others who hold favourable attitudes toward law-breaking.

By the 1960s, personality-based accounts had gained ground. Hans Eysenck proposed that certain personality dimensions, particularly high extraversion and neuroticism combined with low conditionability, made some individuals biologically less responsive to the socialisation processes that ordinarily deter antisocial conduct.

Around the same period, Hervey Cleckley's clinical portrait of the psychopath described a cluster of traits — superficial charm, lack of remorse, shallow affect, and manipulateness — that would later be formalised by Robert Hare into the Psychopathy Checklist-Revised, still one of the most widely used risk-assessment instruments in forensic settings.

The last major historical change, which is still in progress, is the movement toward developmental or life-course criminology.

Using this theory, the highly publicized taxonomy of antisocial behaviour pioneered by Terrie Moffitt identified two groups: one of “life-course-persistent” offenders who began their delinquency at an early age and persisted through the adult years, and a much larger group of “adolescence-limited” offenders who started their criminal careers early in adolescence but then ceased crime as they grew older... David Farrington's long-running Cambridge Study in Delinquent Development identified specific risk factors, such as poor parental supervision and low family income, that predict later offending, while Robert Sampson and John Laub demonstrated that turning points in adulthood, such as stable employment or marriage, can redirect even persistent offenders away from crime.

Together these strands moved criminal psychology away from static, single-cause explanations and toward a picture of crime as the product of accumulating risk and protective factors across a person's life.

#### IV. THEORETICAL PERSPECTIVES ON CRIMINAL BEHAVIOUR

##### 4.1 Biological and Genetic Perspectives

While much more reserved than Lombroso's physiognomy, modern biological criminology has not gone away. Twin and adoption studies, including the famous Danish adoption cohort of Sarnoff Mednick, indicated a genetic component to criminal risk since the criminals' records of their biological parents more closely predicted offending by their adopted-away children than by adoptive parents.

Neuroscientist Adrian Raine has extended this line of research using brain imaging, reporting reduced grey matter volume and lower resting arousal in the prefrontal cortex of individuals with antisocial personality disorder, structures associated with impulse control and moral reasoning.

These studies emphasize that no specific “crime gene” or a brain lesion is present, the consistent result of the literature is that there is a biological dimension in addition to environmental elements, such as childhood adversity – abuse, poverty – that increases or decreases the risk of committing a crime.

##### 4.2 Psychodynamic and Attachment-Based Perspectives

Classical psychoanalysis has become more out-of-fashion, but the core principle remains: How early relationships and unprocessed conflict affect later behaviour.

The attachment theory developed from Bowlby's work goes on to influence clinical evaluations of young offenders, and is based on the assumption that if a child has an early-negative attachment to the caregiver, then they are less likely to be able to regulate their emotions or have stable relationships when grown up.

##### 4.3 Behavioural and Social Learning Perspectives

The focus on behavioural and social learning theories is precisely because they produce interventions, not merely explanations. Learning aggressive or antisocial behaviour means it can, in theory, be unlearned by the same mechanism: being reinforced and modeled.

#### 4.4 Cognitive Perspectives

Cognitive approaches focus less on how behaviour is reinforced and more on how offenders think. Samuel Yochelson and Stanton Samenow's long clinical study of incarcerated men concluded that many habitual offenders exhibit characteristic "thinking errors" — a sense of entitlement, minimisation of harm, and a tendency to see themselves as victims of circumstance rather than as agents of their own choices.

Lawrence Kohlberg's stage model of moral development offered a related but distinct account, suggesting that some offenders reason about right and wrong at a less mature developmental stage than the general population, remaining oriented toward avoiding punishment rather than internalising broader ethical principles.

#### 4.5 Rational Choice and Routine Activity Perspectives

A markedly different strand of thinking treats the offender not as psychologically deficient but as a reasonably rational actor weighing costs and benefits. Derek Cornish and Ronald Clarke's rational choice perspective models offending as a decision shaped by the perceived effort, risk, and reward of a given crime in a given situation.

Lawrence Cohen and Marcus Felson's routine activity theory complements this by arguing that crime requires the convergence, in time and space, of a motivated offender, a suitable target, and the absence of a capable guardian.

These frameworks underpin situational crime prevention strategies discussed in Section 6, because they imply that crime can be reduced by altering the environment rather than the offender.

#### 4.6 Trait and Personality Perspectives

Research based on personality, following from the work of Eysenck and Cleckley, continues in the form of instruments such as Hare's Psychopathy Checklist-Revised, which assesses traits on interpersonal, affective, lifestyle, and antisocial dimensions and has turned out to be one of the better single predictors of violent recidivism in the forensic literature.

#### 4.7 Developmental and Life-Course Perspectives

As outlined in section 3, developmental criminology sees offending as a trajectory rather than a fixed trait.

Risk accumulates or diminishes throughout childhood, adolescence and adulthood, influenced by family, peers and social spheres. This perspective has become the dominant framework for organising early intervention and prevention programmes, which is discussed further in Section 6.

### V. CRIMINAL PSYCHOLOGY IN INVESTIGATION

#### 5.1 Offender Profiling

The most publicly recognisable application of criminal psychology is probably offender profiling — the attempt to infer the likely characteristics of an unknown offender from features of the crime scene, victim and method. The technique was formalised by the FBI's Behavioural Science Unit in the 1970s, based on interviews conducted by agents Robert Ressler and John Douglas with incarcerated serial offenders, to build a typology distinguishing, for instance, "organised" from "disorganised" crime scenes.

David Canter subsequently developed a more empirically grounded, statistically driven approach in the United Kingdom, applying his "five-factor model" to link offender characteristics to behavioural patterns observed across crime scenes.

Kim Rossmo extended profiling into physical space with geographic profiling, a technique that uses the locations of linked crimes to estimate an offender's likely residence or anchor point, based on the observation that most offenders commit crimes within a comfortable travel distance of home but avoid offending too close to it.

The public image of profiling, largely shaped by television drama, is much greater than its scientific credibility. Brent Snook and colleagues undertook a systematic review of the literature and found little empirical support for the notion that profiles produced by self-identified experts were more accurate than those produced by non-experts.

They warned against accepting profiling as a validated forensic science on par with fingerprint or DNA analysis. Used properly, profiling is a tool of investigation that can help to narrow down a pool of suspects and formulate hypotheses. Used without critical thinking, it can anchor investigators to a stereotype and lead them away from more reliable avenues of investigation.

### 5.2 Interrogation and the Psychology of Confessions

Psychology is also involved in how suspects are questioned. The Reid technique, developed by Fred Inbau and John Reid, is a common approach to interrogation and involves rapport-building, a confrontational presentation of the case, and a face-saving rationalisation for the suspect to confess.

The technique does work to elicit confessions, but that effectiveness is what has become its primary criticism. Research by Saul Kassin has found that confrontational, guilt-presumptive interrogation techniques can, under some circumstances of psychological pressure, fatigue, or suggestibility, lead to false confessions, particularly from juveniles and people with intellectual disabilities or compliant personalities.

Gisli Gudjonsson's clinical work on interrogative suggestibility has been influential in several wrongful conviction appeals, illustrating how psychological science can serve to check the very process it originally helped design. The Innocence Project's database of DNA exonerations records false confession as a contributing factor in a substantial share of wrongful convictions later overturned by biological evidence.

### 5.3 Eyewitness Testimony

Psychological research has significantly reframed eyewitness identification, which courts have long regarded as potent evidence. Experiments by Elizabeth Loftus and others have demonstrated that memory is not just a tape recorder, but that it is reconstructive, and that even slight differences in the phrasing of a question, like whether a car was travelling at a certain speed when it "smashed" versus when it "hit," can change memory of an event.

A review of the eyewitness literature by Gary Wells and Elizabeth Olson catalogued estimator variables (e.g., lighting, stress, cross-racial identification) and system variables (e.g., lineup procedure) which influence identification accuracy, work that has since informed reforms such as double-blind, sequential lineup procedures in several jurisdictions.

## VI. CRIMINAL PSYCHOLOGY IN CRIME PREVENTION

If investigation is largely reactive, prevention is where criminal psychology attempts to intervene before an offence is committed. This is arguably where the discipline has the most direct social value.

### 6.1 Risk Assessment

A central prevention tool is the actuarial risk instrument, which estimates the statistical likelihood that a given individual will reoffend based on factors empirically associated with recidivism in large offender samples.

The Violence Risk Appraisal Guide, the HCR-20, and the Static-99 for sexual offenders are among the most widely used instruments internationally, informing decisions on bail, parole, and civil commitment.

Randy Borum's reviews of violence risk assessment traced the field's evolution from purely unstructured clinical judgement, which research repeatedly found to be barely better than chance, toward structured professional judgement models that combine actuarial data with clinical evaluation.

Kirk Heilbrun's standard text on forensic mental health assessment sets out the professional and ethical standards, including transparency about the margin of error, that should accompany any such assessment presented in court.

### 6.2 The Risk-Need-Responsivity Model

Beyond simple prediction, Donald Andrews and James Bonta's Risk-Need-Responsivity model has become the dominant framework guiding correctional intervention internationally.

It holds that treatment intensity should match an offender's assessed risk level (the risk principle), that intervention should target the specific dynamic factors empirically linked to that individual's offending, such as substance abuse or antisocial peer association (the need principle), and that the intervention style should be matched to the offender's learning style, motivation, and abilities (the responsivity principle).

Tony Ward's competing Good Lives Model argues that risk reduction alone is an insufficient goal and that rehabilitation should also help offenders build a positive, prosocial life plan capable of meeting the same underlying human needs that offending once served. In practice, many contemporary correctional programmes blend elements of both approaches.

### 6.3 Situational Crime Prevention

Where the Risk-Need-Responsivity model targets the offender, situational crime prevention targets the environment, drawing directly on the rational choice and routine activity theories described in Section 4.5.

Ronald Clarke's catalogue of case studies shows how relatively simple environmental changes, such as improved street lighting, target hardening, or the removal of anonymous cash payment for goods prone to theft, can measurably reduce opportunistic crime without requiring any change in offender psychology at all.

James Wilson and George Kelling's "broken windows" thesis, though contested and at times applied in ways that produced aggressive over-policing of minor disorder, popularised the related idea that visible signs of neglect in a neighbourhood can themselves signal permissiveness toward crime.

### 6.4 Developmental and Early Intervention Programmes

Because developmental criminology identifies risk factors observable in early childhood, such as poor parental supervision, harsh or inconsistent discipline, and early conduct problems, prevention can begin long before any offence occurs.

David Farrington and Brandon Welsh's review of early-intervention research found that structured

parent-training and pre-school enrichment programmes produced measurable reductions in later delinquency, offering some of the strongest cost-benefit returns of any crime prevention strategy studied to date.

Richard Tremblay's longitudinal work similarly emphasises the toddler and preschool years as a critical window for interrupting the developmental trajectory toward chronic antisocial behaviour.

### 6.5 Hot Spot and Predictive Policing

At the level of policing strategy, Lawrence Sherman's finding that a disproportionate share of crime in any city clusters in a small number of "hot spot" locations, rather than being evenly distributed, has reshaped patrol deployment in many police departments.

Anthony Braga's systematic review of randomised controlled trials found that focused patrol in hot spots produces modest but statistically reliable crime reductions without simply displacing crime to nearby areas, as critics had once feared. More recent, and more controversial, predictive policing software attempts to extend this logic using statistical and machine-learning models to forecast where and sometimes who is likely to be involved in future crime, a development examined further in Section 10.

## VII. CRIMINAL PSYCHOLOGY IN JUSTICE DELIVERY

Psychology continues to impact cases when they reach the courtroom — it also guides decisions on whether a defendant can even stand trial, and what sentence they ultimately get.

### 7.1 Criminal Responsibility and the Insanity Defence

The oldest and most doctrinally significant intersection of psychology and criminal law is the question of criminal responsibility. The M'Naghten Rules, formulated by the English House of Lords in 1843, established that a defendant is not criminally responsible if, at the time of the act, a disease of the mind left them unable to know the nature and quality of the act or unable to know that it was wrong.

The American Durham rule attempted a broader formulation, excusing conduct that was the product of mental disease or defect, though it was later abandoned in most jurisdictions as too indeterminate for juries to apply consistently.

The Model Penal Code's substantial capacity test, requiring that the defendant lacked substantial capacity to appreciate the criminality of the conduct or to conform to the law, represents a middle position still influential in American law today.

Indian law follows a formulation closely modelled on M'Naghten: Section 84 of the Indian Penal Code, now restated in Section 22 of the Bharatiya Nyaya Sanhita, exempts from liability an act done by a person who, by reason of unsoundness of mind, is incapable of knowing the nature of the act or that it is wrong or contrary to law.

In every one of these formulations, the legal test is ultimately a psychiatric and psychological judgement dressed in legal language, and courts routinely rely on expert testimony from forensic psychologists and psychiatrists to apply it.

#### 7.2 Competency to Stand Trial

Distinct from the insanity defence, which concerns the defendant's mental state at the time of the offence, competency to stand trial concerns the defendant's mental state at the time of the proceedings. The American standard set out in *Dusky v.*

United States asks whether the defendant has sufficient present ability to consult with counsel and a rational as well as factual understanding of the proceedings against them. Forensic psychologists conduct structured competency evaluations to answer this question, and a finding of incompetence typically results in treatment aimed at restoring competency rather than an outright dismissal of charges.

#### 7.3 Interrogation Rights and Confession Evidence

The United States Supreme Court decision in *Miranda v.*

Arizona, which mandated that suspects be informed of their right to silence and counsel prior to custodial interrogation, was itself heavily influenced by

psychological findings, cited in the majority opinion, regarding the coercive atmosphere of police interrogation rooms and their ability to overbear a suspect's will.

The false confession research discussed in Section 5.2 continues to inform ongoing debate over whether such procedural safeguards go far enough.

#### 7.4 Juvenile Justice and Developmental Maturity

Adolescent brain development has become a decisive factor in how the law treats young offenders. In *Roper v. Simmons*, the United States Supreme Court abolished the juvenile death penalty, relying in part on psychological and neuroscientific evidence, summarised by Laurence Steinberg, that adolescents are more impulsive, more susceptible to peer pressure, and less able to weigh long-term consequences than adults, making them less culpable even for identical conduct.

The Court extended similar reasoning in *Graham v. Florida* to limit life-without-parole sentences for juveniles in non-homicide cases. Earlier, in *re Gault* had already established that juveniles are entitled to basic due process protections in delinquency proceedings, reflecting a growing recognition that the juvenile justice system serves a different purpose, rehabilitative rather than purely punitive, from the adult system.

India's Juvenile Justice (Care and Protection of Children) Act, 2015 similarly builds a framework around the psychological and developmental needs of children in conflict with the law, while controversially allowing certain older adolescents accused of heinous offences to be tried as adults following a preliminary psychological and social assessment.

#### 7.5 Sentencing and Expert Testimony

Forensic psychologists are often asked to testify at sentencing regarding the risk of reoffending, ability to rehabilitate, and mitigating psychological history (e.g., childhood trauma or cognitive impairment) of an offender. Julian Roberts' work on sentencing and public opinion reveals the tension judges have to negotiate between the psychologically informed individualised assessment and the public's often

desire for uniform, proportionate punishment, related to the offence and not the offender.

Similarly, the work of Michael Antonio and Valerie Hans on juror decision-making documents the role of psychological factors, including implicit bias, in shaping lay assessment of culpability and credibility during trial, a reminder that psychology is not only a factor in expert testimony, but also in the reasoning of the fact-finder's themselves.

7.6 Victim Psychology and Trauma-Informed Justice  
Justice delivery is not only about the offender. Judith Herman's influential work on trauma established that victims of prolonged interpersonal violence, such as domestic abuse or sexual assault, often experience symptoms resembling post-traumatic stress disorder, including fragmented memory and delayed disclosure, patterns that can be misread by investigators and juries as inconsistency or fabrication if not properly understood.

Patricia Resick and Monica Schnicke's cognitive processing therapy, developed specifically for sexual assault survivors, illustrates how clinical psychology has fed back into the justice system through victim support services and trauma-informed interviewing protocols now used by many police forces.

#### VIII. REHABILITATION, TREATMENT, AND RECIDIVISM REDUCTION

Perhaps the strongest empirical case for criminal psychology's contribution to justice lies not in the courtroom but in the correctional programme. Mark Lipsey and Francis Cullen's review of decades of systematic reviews concluded that well-designed, evidence-based correctional programmes reliably outperform incarceration alone at reducing reoffending, reversing an earlier and now largely discredited "nothing works" consensus that had dominated corrections research in the 1970s.

Cognitive-behavioural therapy programmes in particular have received considerable support: a meta-analysis by Nana Landenberger and Mark Lipsey found that structured cognitive-behavioural interventions reduced recidivism by roughly twenty to thirty percent relative to comparison groups, an

effect that persisted across age groups and offence types.

Scott Henggeler's Multisystemic Therapy, which intervenes in the juvenile offender's family, school and peer systems rather than treating the young person in isolation, has produced some of the largest documented reductions in reoffending among high-risk adolescents.

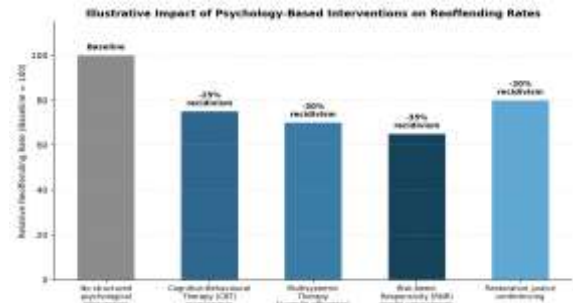


Figure 1. Illustrative impact of psychology-based interventions on relative reoffending rates.

The chart above offers an approximate comparison of various categories of psychologically informed intervention versus a baseline of no structured intervention based on published meta-analytic ranges. The numbers are illustrative rather than a claim of the precise effect of any one programme, since the actual results vary widely by population, fidelity of implementation, and length of follow-up.

The larger, more defensible point is that the general direction of the finding holds across independent bodies of research: structured, psychologically grounded programmes beat unstructured incarceration on recidivism outcomes.

Restorative justice is another rehabilitative philosophy. The focus is on repairing the damage done to the victim and the community, rather than punishing the offender.

Howard Zehr's foundational framing redefined crime as a violation of people and relationships rather than a violation of the state's rules, whereas John Braithwaite's theory of reintegrative shaming has argued that an approach that confronts offenders with the harm they caused, whilst affirming their capacity

to be reaccepted into the community, can be more effective at preventing reoffending than stigmatising punishment alone.

Related therapeutic jurisprudence scholarship, associated with David Wexler and Bruce Winick, examines how the law itself, including the procedures and language used in specialised courts such as drug courts and mental health courts, can be structured to have a therapeutic rather than antitherapeutic psychological effect on participants.

None of this should be read as suggesting rehabilitation is simple or guaranteed. Craig Haney's research on the psychological effects of incarceration documents how prolonged imprisonment, particularly under conditions of isolation or overcrowding, can itself produce institutionalisation, hypervigilance, and difficulty with post-release adjustment, effects that can work against the very rehabilitative goals correctional psychology tries to achieve.

Recidivism data compiled by the United States Bureau of Justice Statistics consistently shows substantial reoffending within the first few years of release even among participants in well-regarded programmes, a reminder that psychological intervention improves the odds of desistance without eliminating the underlying social and economic barriers, such as unemployment and housing instability, that many released offenders continue to face.

## IX. ILLUSTRATIVE CASE STUDIES

### 9.1 The Investigative Use of Profiling: Serial Offender Cases

The early profiling work of the FBI's Behavioural Science Unit, based on structured interviews with incarcerated offenders, was used in a number of high-profile American serial murder investigations in the 1970s and 1980s, helping investigators to reduce the pool of suspects by inferring likely offender characteristics, such as employment patterns, relationship status and organisational competence, from crime scene behaviour.

The cases illustrate the realistic investigative function of profiling as a tool for narrowing down an existing

pool of leads generated through conventional evidence, not as a stand-alone method for identifying an unknown offender from behavioural inference alone—a distinction that is often blurred in popular dramatisation.

### 9.2 Wrongful Conviction and False Confession

The Innocence Project has a database of exonerations. In many of these cases, vulnerable suspects—often juveniles or people with intellectual disabilities—confessed to crimes they did not commit after long, confrontational interrogations. Years later, DNA evidence led to their exoneration.

These cases have led to procedural reforms in several jurisdictions (e.g., mandatory recording of interrogations, limitations on the use of confrontational tactics with juvenile suspects), changes that can be traced directly to the psychological research on suggestibility and false confession discussed in Section 5.2.

### 9.3 India: The 2012 Delhi Case and Institutional Reform

The gang rape and murder in Delhi in 2012 led the Indian government to establish the Justice J. S. Verma Committee, whose report resulted in major amendments to strengthen India's laws on sexual offences.

Beyond legal reforms, the case also stimulated a wider institutional dialogue in India on trauma-informed interviewing of survivors, psychological training for investigating officers and the treatment of juvenile offenders in cases of extreme violence, showing how a single case can push forensic and victim psychology deeper into mainstream policing practices.

## X. EMERGING TECHNOLOGY, NEUROSCIENCE, AND ETHICAL CHALLENGES

Neurocriminology, led by researchers such as Adrian Raine, continues to refine the biological account of criminal behaviour using structural and functional brain imaging, associating patterns of prefrontal and amygdala activity with impulsivity, reduced fear

conditioning, and diminished moral reasoning in some offender populations.

Legal scholar Nita Farahany has tracked the growing, though still cautious, use of neuroscientific and behavioural genetic evidence in American courtrooms, mainly as mitigating evidence at sentencing rather than as a determinative test of guilt or innocence, given the field's continuing inability to draw a reliable line from a brain scan to an individual criminal act.

At the same time, artificial intelligence and machine learning have supplied a parallel and more immediately controversial collection of tools. Some jurisdictions now employ algorithmic risk-assessment tools to inform bail and sentencing decisions, such as the COMPAS system studied in a widely cited ProPublica investigation. That investigation revealed evidence of racial disparity in the tool's error rates, and the ensuing debate, which reached the Wisconsin Supreme Court in *State v.*

*Loomis*, has compelled courts to grapple with difficult questions of transparency, proprietary algorithms, and due process as statistical prediction replaces or supplements clinical judgement. Likewise, research by Richard Berk on machine-learning risk forecasts in parole decisions identified measurable predictive gains over unaided human judgement, but cautioned that such gains come with real risks of embedding historical bias into seemingly neutral mathematics when the underlying training data reflect biased policing or charging patterns.

Similar concerns arise with predictive policing software, which attempts to forecast likely crime locations or, more controversially, likely offenders; Andrew Ferguson's criticism is that such systems can create self-fulfilling feedback loops, in which increased patrols in a predicted hot spot lead to more recorded arrests there, which in turn validates the algorithm's original prediction, irrespective of any real change in underlying offending.

These developments crystallise the core ethical tension that runs through the entire field of criminal psychology: the same tools that make justice more accurate and more individualised also create new

avenues for bias, overreach, and the illusion of scientific certainty in what remains, at bottom, probabilistic and culturally situated knowledge about human behaviour.

## XI. THE INDIAN CONTEXT

India's work in the field of criminal psychology has been lagging behind its common law counterparts, but this is changing. Unlike clinical psychology, which is formally regulated through the Rehabilitation Council of India, forensic psychology is not yet formally regulated in India and courts have not equally used the work of a psychologist and have used the services of a forensic psychiatrist from government hospitals, who are not exposed to training as a forensic psychologist.

The National Crime Records Bureau's annual Crime in India reports are only the statistics and do not include much psychological or offender-profile information, which is otherwise routinely collected in the United States and United Kingdom, and limits the evidence available to Indian researchers and policymakers.

However, there are some signs of more integration. For the first time, the Juvenile Justice Act mandates a preliminary psychological and social investigation before a juvenile is tried as an adult for a heinous offence, thus incorporating the concept of forensic-developmental assessment into Indian criminal procedure.

The post-2012 reforms suggested by the Justice Verma Committee also aimed for a more trauma-informed approach to the investigation and trial of sexual offences. Criminal and forensic psychology training has also grown significantly in Indian universities during the last decade and the Indian courts have gradually come to accept psychological evidence, particularly on matters related to competency, the diminished responsibility under Section 84 IPC (now Section 22 BNS) and the credibility of victims.

The trajectory points to a system on the path of many other jurisdictions to routine, rather than exceptional, the use of psychological consultation in criminal

proceedings, a step that will likely take some time to achieve.

#### CONCLUSION

The basic vocabulary of the criminal justice system has been revolutionized by criminal psychology. If the system was once asking "What happened?" it is now regularly asking "Why?" and often now asks "What will happen next?" and "What can be done?" with an increasing level of realism.

That's led to real progress: stronger interrogation practices, better risk assessment, better correctional programming, and a courtroom that's better prepared to differentiate between guilt and illness, immaturity and circumstance. It has also created real problems, such as the abuse of untested "profiling" methods and the hidden incorporation of history into algorithmic risk assessments that have an aura of objectivity.

The future utility of the discipline may be more closely tied to the degree of rigor applied to the current and emerging tools to validate, disclose, and benchmark them against their own error rate before using them to abrogate the liberty of another person.

Combined with that discipline, criminal psychology provides a benefit to the law that it can't provide without: an evidence-based explanation of why people commit crimes and an evidence-based approach to preventing them from committing crimes again.

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