

Role of Forensic Science in Criminal Investigations

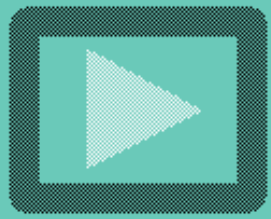
Exploring the Vital Role of Forensic Science in Safeguarding Children's Welfare

We'll delve into the pivotal role of forensic science in criminal investigations and its profound impact on safeguarding children's welfare. We uncover the critical link between forensic science and justice, particularly in ensuring the safety and well-being of our children.

What is Forensic Science:

- Forensic science is a multidisciplinary field applying scientific principles to investigate crimes. It involves collecting, preserving, and analyzing physical evidence like DNA and fingerprints to determine what happened during a crime. Forensic findings are vital for solving crimes, identifying perpetrators, and providing closure to victims' families. Additionally, forensic science aids in disaster victim identification, forensic anthropology, and forensic psychology.
- Forensic science not only aids in solving crimes and identifying perpetrators but also plays a crucial role in safeguarding children's welfare. By analyzing evidence related to child abuse, abduction, or exploitation, forensic scientists contribute to ensuring justice for child victims and holding offenders accountable. Additionally, forensic techniques such as DNA analysis and forensic interviewing help gather evidence in cases involving children, ensuring that their voices are heard and their rights protected. Moreover, forensic science assists in identifying missing or abducted children, facilitating their safe return to their families and preventing further harm. Thus, the application of forensic science significantly contributes to both crime investigation and the protection of children's welfare.

Forensic Science: Topics and Applications



Audio & Video



Blood Stains



CSI



Digital Evidence



DNA



Drugs



Evidence & Witnesses



Explosives



Fingerprints



Firearms



Footwear & Tires



Photography



Questioned Documents



Toxicology



Trace Evidence

Principles and laws within the field of forensic science:

1. **Law of Exchange:** The Law of Exchange, often associated with Locard's Exchange Principle, states that when two objects come into contact with each other, there is an exchange of materials.
2. **Principle of Individuality:** The Principle of Individuality asserts that every object or substance is unique and can be distinguished from all others based on its characteristics or properties.
3. **Law of Comparison:** The Law of Comparison emphasizes the systematic comparison of evidence and reference samples to establish similarities or differences. Forensic scientists use this approach to evaluate physical evidence, such as comparing shoeprints or tire treads found at a crime scene to known standards in order to identify potential matches.
4. **Principle of Linkage:** The Principle of Linkage refers to the process of connecting evidence to a particular person, object, or event. It involves establishing logical connections between different pieces of evidence to construct a cohesive narrative of what transpired during a crime. This principle is crucial for building a comprehensive understanding of the case and presenting it effectively in court.
5. **Law of Probability:** The Law of Probability involves applying statistical principles to evaluate the likelihood of certain events or scenarios occurring. In forensic science, probabilities are often used to assess the significance of evidence, such as the likelihood of a DNA match occurring by chance or the probability of a particular DNA profile being found in the general population.
6. **Law of Progressive Change:** The Law of Progressive Change acknowledges that various factors, such as environmental conditions or the passage of time, can cause changes to evidence over time.
7. **Law of Analysis:** The Law of Analysis likely pertains to the systematic examination and interpretation of evidence using established scientific methods and techniques. This module may cover topics such as the analytical process, the use of specialized instrumentation, and the importance of thorough documentation and reporting in forensic analysis.

Children involved in criminal activities or victimized by crimes, forensic science plays a crucial role in several aspects:

Child Victim Identification and Examination:

Forensic science techniques, such as DNA analysis, fingerprinting, and forensic anthropology, can be used to identify child victims of crimes, including cases of abduction, sexual abuse, and homicide. Forensic experts carefully examine evidence recovered from crime scenes or remains to establish the identity of the child victim.

Forensic Interviewing of Children:

Forensic psychologists and trained interviewers utilize specialized techniques to conduct forensic interviews with child victims or witnesses. These interviews aim to gather accurate and reliable information from children while minimizing trauma and ensuring their well-being.

Child Sexual Abuse Investigations:

Forensic evidence, such as DNA samples, bodily fluids, and trace evidence, can provide crucial information in cases of child sexual abuse. Forensic examination of physical evidence collected from victims or crime scenes can help corroborate allegations, identify perpetrators, and support legal proceedings.

Child Exploitation and Pornography:

Forensic analysis of digital devices, such as computers, smartphones, and storage media, is essential in cases involving child exploitation, online grooming, and the production or distribution of child pornography. Digital forensic techniques are used to recover and analyze digital evidence, including images, videos, chat logs, and browsing history.

Child Witness Testimony:

Forensic psychologists may provide expert testimony in court regarding the reliability and credibility of child witness testimony. They assess factors such as the child's developmental stage, memory capabilities, suggestibility, and potential influence of leading questions to help the court evaluate the child's testimony accurately.

Child Custody and Family Law:

Forensic psychologists may conduct evaluations and assessments to inform child custody decisions in family law cases. These evaluations consider factors such as the child's well-being, relationship with parents, and any evidence of abuse or neglect, helping courts make decisions that prioritize the child's best interests.

Child Abduction and Missing Children Cases:

Forensic science plays a vital role in investigations into cases of child abduction and missing children. Techniques such as DNA analysis, forensic odontology (dental records), and facial recognition may be used to identify abducted or missing children and reunite them with their families.

Preventing Wrongful Convictions:

Forensic science plays a crucial role in preventing wrongful convictions of juveniles by providing accurate and reliable evidence to support investigations and legal proceedings. Techniques such as DNA analysis and forensic pathology can help identify the true perpetrators of crimes and exonerate wrongly accused individuals.

Child protection laws include the following:

1. Children Pledging of Labour Act, 1933
2. This Act prohibits the pledging of the labour of children.
3. The Immoral Traffic (Prevention) Act, 1987
4. This Act seeks to stop trafficking in young persons, both boys and Girls
5. Child Labour (Prohibition and Regulation) Act 1986
6. Prohibition of Child Marriage Act, 2006
7. Right of Children to Free and Compulsory Education Act, 2009
8. Protection of Children from Sexual Offences Act, 2012
9. The Protection of Children from Sexual Offences (POCSO) Act, 2012
10. Juvenile Justice (Care and Protection of Children) Act, 2015

Child Related Legislation <https://wcd.nic.in/act/2315>

Laws Related to Children in India (IPC and CrPC)

IPC : Indian Penal Code (IPC) sections 82, 83, and 89 provide exemptions for offenses committed by children under 12 and those acting in good faith for a child's benefit. Furthermore, IPC sections 317, 361, 363, and 369 address offenses related to child abandonment, kidnapping, and exploitation, aiming to safeguard children's well-being. IPC sections 363A, 366A, 372, and 373 target crimes like kidnapping for begging, inducing minors into illicit activities, and trafficking for immoral purposes, imposing severe penalties.

CrPC : The Code of Criminal Procedure (CrPC) Section 27 outlines trial procedures for juvenile offenders, ensuring a more lenient approach for those under 16. Any offence not punishable with death or imprisonment for life, committed by any person who at the date when he appears or is brought before the Court is under the age of sixteen years, may be tried by the Court of a Chief Judicial Magistrate, or by any Court specially empowered under the Children Act, 1960 ([60 of 1960](#)), or any other law for the time being in force providing for the treatment, training and rehabilitation of youthful offenders.

What are the Child Rights?

- All people under the age of 18 are entitled to the standards and rights guaranteed by the laws that govern our country and the international legal instruments we have accepted by ratifying them.
- The Constitution of India guarantees all children certain rights, which have been specially included for them. These include:
- Right to free and compulsory elementary education for all children in the 6-14 year age group (Article 21 A).
- Right to be protected from any hazardous employment till the age of 14 years (Article 24).
- Right to be protected from being abused and forced by economic necessity to enter occupations unsuited to their age or strength (Article 39(e)).
- Right to equal opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and guaranteed protection of childhood and youth against exploitation and against moral and material abandonment (Article 39 (f)).

Besides these children have rights as equal citizens of India, just as any other adult male or female:

- Right to equality (Article 14).
- Right against discrimination (Article 15).
- Right to personal liberty and due process of law (Article 21).
- Right to being protected from being trafficked and forced into bonded labour (Article 23).
- Right of weaker sections of the people to be protected from social injustice and all forms of exploitation (Article 46).

The State Responsibilities:

- Make special provisions for women and children (Article 15 (3)).
- Protect interest of minorities (Article 29).
- Promote educational interests of weaker sections of the people (Article 46).
- Raise the level of nutrition and standard of living of its people and the improvement of public health (Article 47).
- Besides the Constitution, there are several laws that specifically apply to children. As responsible teachers and citizens, it is advisable that you are aware of them and their significance. These have been described in different sections of this booklet along with the issues they deal with.

PART IV:

- **Article 39 (e):** The state shall strive to ensure that the tender age of children is not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.
- **Article 39 (f):** The state shall ensure children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity. It must also be ensured that childhood and youth are protected against exploitation and against moral and material abandonment.
- **Article 41:** The state is obliged to, within its economic capacity and development, secure provisions for educational opportunities and facilities.
- **Article 44:** The state shall make all possible efforts to secure a Uniform Civil Code for all the citizens, thereby implying a uniform code for the adoption of children.
- **Article 45:** The state shall endeavour to provide free and compulsory education to children until they attain their age of fourteen years.
- **Article 46:** It is the duty of the state to promote the educational and economic interests of weaker sections of the society with special care and therefore, the children therein.
- **Article 47:** The state is duty-bound to raise the level of nutrition and the standard of living and to improve public health, including that of children.
- **Article 51 (c):** International laws and treaties shall be respected by the state to every possible extent, including the CRC and its optional protocols, Optional Protocol to CRC on Sale of Children, Child Prostitution and Child Pornography and Optional Protocol to CRC on the Involvement of Children in Armed Conflict.
- **Article 51 A (k):** It shall be the duty of every citizen of India who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.
- **Article 243G** provides for the institutionalisation of child care by seeking to entrust programs of Women and Child Development to Panchayat (Item 25 of Schedule 11).

Land Mark Judgements by Hon'ble Supreme Court

	Citation	Brief
1	Dinesh vs State of Rajasthan AIR 2006 SC 1267.	The Supreme Court stated that the name of the victim shall not be published even in the publication of the judgments of the courts.
2	Vishall Jeet vs Union of India AIR 1990 SC 1412	The Supreme Court issued directions to the State Government for eradicating child prostitution and setting up rehabilitative homes for such children.
3	Chand Devi Daga & Ors. vs Manju K. Humatani & Ors. Criminal Appeal No. 1860 of 2017	The Supreme Court upheld a High Court Judgment that allowed legal heirs of the complainant to prosecute the petition before the High Court.
4	Om Prakash vs State of U.P Case No. Appeal (crl.) 629 of 2006	The victim of sexual assault is not treated as accomplice and as such, her evidence does not require any corroboration including that of a doctor. Even if the doctor who examined the victim does not find sign of rape, it is no ground to disbelieve the sole testimony of the prosecutrix.

International Law

United Nations Convention on the Rights Of The Child

The most significant of all international laws for children is the UN Convention on the Rights of the Child, popularly referred to as the CRC. This, together with our Indian Constitution and Laws, determine what rights all children must have.

What is the UN Convention on the Rights of the Child?

Human rights belong to all people, regardless of their age, including children. However, because of their special status - whereby children need extra protection and guidance from adults - children also have some special rights of their own. These are called children's rights and they are laid out in the UN Convention on the Rights of the Child (CRC).

Hidden Talents Within Every Child

It's a powerful notion that every child possesses unique gifts and abilities waiting to be discovered. Let's explore how we can unearth these hidden talents:

1. **Inherent Potential:** Every child is born with inherent potential and innate abilities. These talents may be dormant or undiscovered, but they exist within each child, waiting for the right circumstances to blossom.
2. **Biological Blueprint:** Our genetic makeup provides a blueprint for our talents and predispositions. Just as our DNA determines our physical characteristics, it also influences our cognitive abilities, creative talents, and emotional intelligence. Understanding this biological foundation helps us identify and nurture a child's natural talents.
3. **Early Indicators of Talent:** There are early indicators of talent that parents and educators can observe. These may include a child's keen interest in a particular subject or activity, exceptional problem-solving skills, or a natural aptitude for music, art, or sports. Paying attention to these signs can help uncover hidden talents early on.
4. **Individualized Learning:** Each child learns and thrives in different ways. By adopting individualized learning approaches, we can cater to a child's unique strengths and interests. Providing diverse opportunities for exploration and discovery allows children to tap into their talents and develop them further.
5. **Creating a Supportive Environment:** A supportive environment is crucial for nurturing hidden talents. Surrounding children with positive role models, mentors, and peers who encourage and inspire them fosters a sense of confidence and self-belief. Providing access to resources, opportunities, and mentorship programs further cultivates their talents.
6. **Realizing Potential:** Uncovering hidden talents isn't just about personal fulfillment; it's about realizing the full potential of every child. When children are empowered to explore their interests, pursue their passions, and leverage their strengths, they become confident, resilient individuals who are poised to make a positive impact on the world.

Hello, incredible young champions!

I know that each and every one of you is destined for greatness. That spark of potential deep within you, just waiting to ignite into a blazing fire of brilliance?

Listen closely, because I'm about to share with you the most incredible secret of all: the power of believing in yourself. It's a force so strong, so mighty, that it can move mountains and part seas. And guess what? You already possess it within you.

1. **Embrace Your Magnificence:** Look in the mirror and see the magnificent being staring back at you. You are a masterpiece, a one-of-a-kind creation, bursting with untapped potential and boundless possibilities. Own it, celebrate it, and let your light shine for all the world to see.
2. **Dream Big, Dream Bold:** Close your eyes and envision the most audacious dream you can imagine. Now, multiply it by infinity. That's right – there are no limits to what you can achieve when you dare to dream big and bold. So go ahead, dream like there's no tomorrow, and then go out there and make those dreams a reality.
3. **Conquer Your Fears:** Fear is just a four-letter word – and you, my friend, are infinitely more powerful than any word could ever be. Stand tall, face your fears head-on, and watch them crumble in the face of your indomitable spirit. You were born to conquer mountains, not cower in their shadows.
4. **Spread Your Wings and Soar:** You are not meant to be confined by boundaries or limitations. You are meant to spread your wings and soar to unimaginable heights. Take that leap of faith, trust in yourself, and watch as the universe conspires to make your wildest dreams come true.
5. **Be a Beacon of Positivity:** In a world filled with darkness, be the beacon of light that guides others home. Spread kindness like confetti, sprinkle joy wherever you go, and watch as your positivity transforms the world around you.

So go forth, my radiant warriors, and let your brilliance illuminate the world. Believe in yourself, trust in your power, and never forget that you are capable of achieving absolutely anything your heart desires.

Wonder Child



Rameshbabu Pragganandhaa is an Indian chess player who has achieved the title of Grandmaster. He won the World Youth Chess Championships under-8 title in 2013 at the **age of 7** and the under-10 title in 2015. He became the youngest international master in history at the age of 10 years.

Lydian Nadhaswaram is an Indian musician who won 'The World's Best on CBS'. He started performing on the drums at the **age of 2**. He learned piano by himself at the age of 8. He was a film composer for 'Barroz: Guardian of D'Gama's Treasure', which was a Malayalam film.





Kautilya Pandit, the Google boy who appeared in KBC and is known for his intelligence in India. He made history on the show as a young expert.

He won the Global Child Prodigy award in January 2021.

Priyanshi Somani is known as the youngest human calculator in India. She was the winner of the Mental Calculation World Cup in the year 2010. She started practising mental maths at the age of six and became a national champion in abacus and mental arithmetic competitions in India.

In 2007, she went international and became a champion in the abacus.





Advait Kolarkar is one of the world's youngest painters and an awardee of the Global Prodigy Award. The Art2day gallery in Pune hosted an exhibition of his fine work.

Truptraj Pandya is the youngest tabla player in the world and he started playing the tabla at the age of two. At the age of three, he got the opportunity to play the tabla live on All India Radio and played for Doordarshan at the age of four. He entered the Guinness Book of World Records for being the youngest-ever tabla master.





Thank you

The Child Conservation Foundation
&
Rashtriya Sewa Bharti

By
Adv. Sanjay Sarraf