Involvement of Persons with Digital Deformities (both Congenital and Accidental) in Heinous Crimes

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ABSTRACT

Disabilities can be physical, muscular, cognitive or even emotional. But in this study, we have focused on the involvement of persons with missing digits/fingers (congenital or accidental) of hand/s in criminal activities. Idea was to detect whether there was any impact of number of lost digits on commissioning of various types of crimes. It was found from the data analyzed that individuals with missing digits had been convicted under various Sections of of Law, such as Indian Penal Code (IPC), Narcotic Drugs and Psychotropic Substances Act, Arms Act, Excise Act, Explosives Act, and Special & Local Laws, akin individuals with intact digits of hand/s. Out of the total 20000 Ten-digit fingerprint record slips scrutinized, only 422 convicts were found to have missing fingers of hand/s. It was found in the study that persons, with missing index and middle fingers which are considered dominant in accomplishing routine and specialized tasks, participated in all categories of crimes, including the heinous types. Their participation in Theft, Robbery & Dacoity was 29.5%, followed by crimes under Excise Act with 28% involvement. In heinous crimes like Murder & Attempt to Murder the tally stood at 25.5 %. Our analysis, though may not lead to development of a theory about proficiency of those with amputated fingers of hand/s in committing crimes, but it certainly can assist the prosecutors/judiciary in highlighting the fact, that a plea of missing fingers rendering a person incapable of committing an offence, may not in all circumstances be a legitimate one.

KEYWORDS

Finger print record slip, Personal Identification Number (PIN), Missing digits(fingers), Indian Penal Code (IPC)

INTRODUCTION

Deformities of hand and fingers

Hand and finger deformities include, swan-neck deformity, boutonnière deformity, and Dupuytren contracture. These deformities may be caused by an injury, or may result from another disorder (for example, rheumatoid arthritis) **[1](Steinberg 2018).** Symbrachydactyly is a congenitial condition in which the babies are born with short hand, small or missing digits of hand. It may be further categorized depending on the severity or level of deformities of hand and/or fingers. But for our study we are concerned with the deformities of digit/s (finger/s) of hand/s, more precisely missing top phallenge of finger/s of adult criminals or convicts. When a 10-digit finger print record slip (of paper) is prepared, the top phalanges are inked and rolled in designated boxes (i.e. box meant for Left Index, Right Middle etc.). The study was conducted to guage the the impact of missing top phalanges of digits/fingers of hand/s of convicts and their level of participation in different categories of crimes. So where ever we have written missing digit/s/finger/s of hand/s, it should imply missing of top phalange or missing of entire finger of hand/s. Moreover, digit or finger too should mean the same, in this paper.

Guildelines for consideration of disabilities of hand/s and finger/s for compensation in Denmark (Europe)

The determination of compensation for deformity/disability (in Denmark) is always based on the latest guiding disability table from the National Board of Industrial Injuries (NBII).

Table-1 : Extract of the disability table from NBII, Denmark

S. No.	Part of the Hand	Right hand	Left Hand
1	Loss of arm (whole arm)	70%	65%
2	Loss of hand	60%	55%
3	Loss of all finger in one hand	55%	50%
4	Loss of thumb with metacarpal bone	30%	25%
5	Loss of thumb	25%	25%
6	Loss of the distal phalanx of the thumb	12%	12%
7	Loss of 2. finger	10%	10%
8	Loss of the distal phalanx and central part of the 2. finger	10%	10%
9	Loss of the distal phalanx of the 2. or 3. finger	5%	5%
10	Loss of the 3. finger	10%	10%
11	Loss of the distal phalanx and central part of the 3. finger	8%	8%

Loss of the distal phalanx of the 4. or 5. Finger, whether it's the left or right finger, is not compensated as the degree of disability is less than 5%. Also, be aware. that if you are left handed, you should see your left hand as your right and vice versa. [2]**(IDA 2020).**

Disabilities of hand/s and finger/s for compensation in India

Following are the 21- disability conditions included in the Rights of Persons with Disabilities Act 2016 (RPWA Act): Blindness, Low-vision, Leprosy Cured persons, Hearing Impairment (deaf and hard of hearing), Locomotor Disability, Dwarfism, Intellectual Disability, Mental Illness, Autism Spectrum Disorder, Cerebral Palsy, Muscular Dystrophy, Chronic Neurological conditions, Specific Learning Disabilities, Multiple Sclerosis, Speech and Language disability, Thalassemia, Hemophilia, Sickle Cell disease, Multiple Disabilities including deaf-blindness, Acid Attack victim, and Parkinson's disease. The RPWD Act 2016 was enacted by the Indian Parliament to fulfil Indian's obligation to the UNCRPD. India had ratified the UNCRPD on 01 October 2007 [3]**(Kumar 2018).**

Use of 10-digit finger print slips for Research

Central Finger Print Bureau (CFPB) is a national repository of 10-digit Finger Print (FP) record slips of the convicted persons under sections and laws as described in the 'Schedule of Offences' in CFPB Manual. [4]**(CFPB Manual 2001).** It aids Governement law enforcement agencies in gaining access to the criminal antecedents of the offenders. On being convicted, individual's rolled & plain finger impressions are taken, and entry of his/her conviction details and demographic attributes (i.e. age, parentage, gender, place of residence, religion etc.) is made on the slip, which is then verified and authenticated by the appropriate authority. The slips thus ceated are sent to the State Finger Print Bureau (SFPB) of the state/province of origin, and to the CFPB for adding-up in the national database, for future reference. Finger print technician while acquiring fingerprints of the convicts, also puts on record, the details of missing digits, as well as information about bandaged/plastered fingers etc.). The analysis of data available on 10-digit FP record slips of such convicts, has helped in our research to study the involvement of individuals with missing digits of hand/s, in heinous and other crimes. The lead or correspondenc author of this paper had already used 10-digit finger print record slips as successfully and authentic tool for criminal research in the year 2004 and 2005 [5]**(Singh 2004)** [6]**(Singh 2005).**

Population of disabled persons in India

As per the Census 2011, in India out of the 121 Cr* population, 2.68 Cr persons are 'disabled' which is 2.21% of the total population. Among the disabled population 56% (1.5 Cr) are males and 44% (1.18 Cr) are females. In the total population, the male and female population is 51% and 49% respectively. Majority (69%) of the disabled population resided in rural areas (1.86 Cr disabled persons in rural areas and 0.81 Cr in urban areas). In the case of total population also, 69% are from rural areas while the remaining 31% resided in urban areas [7]**(Census 2011).**

Table-2: Population of disabled persons in India in 2011

Population of India in 2011			Disabled persons in India, 2011		
Persons	**Males**	**Females**	**Persons**	**Males**	**Females**
121.08 Cr*	62.32 Cr	58.76 Cr	2.68 Cr	15. Cr	1.18 Cr
Cr = Crore, *1 Crore = 10 million, 100 Crore = 1 Billion					

Livelihoods and economic opportunities of disabled people

The percentage of disabled persons is highest in the age group 10-19 years, followed by age group 20-29 years, for both the male and female disabled persons. The livelihoods and economic opportunities of disabled people are often highly compromised because they are more likely to be excluded from services, social contracts and community activities. Employment is a key factor in the empowerment and inclusion of people with disabilities. In reality, however, the majority of adults with disabilities remain unemployed despite their potential and/or their desire to contribute to the work force. Unemployment rates are much higher for disabled people. For example, in the late

1990s the unemployment rate among disabled adults, age 20-64, was 80 percent higher than for the non-disabled population in OECD countries [8]**(Mont 2004).**

Disabled persons: The victims of crime

People with disabilities often face social stigmas from employers, co-workers and society, and from a young age they lack opportunities for education and training especially women, youth, and those in rural areas [9]**(Edmonds 2005).** Persons with disabilities are victimized by crime at much higher rates than the rest of the population and they are often targeted specifically because of their disabilities. As compared to other population groups, victims with disabilities experience higher rates of victimization by persons known to them, and they report crime less frequently, often because of the nature of their disabilities, such as cognitive or physical disabilities or mental illness. [10]**(NCVRW RESOURCE GUIDE-2015).**

Disabled persons: The perpetrators crimes

There is common belief that persons with disabilities are always at the receiving end, and are most often victims of crime. Generally when we visualize a criminal, we usually don't think of of someone physically challenged or with deformities of hands or fingers. But the readers might be surprised to learn that over the years, numerous individuals with disabilities have been convicted by the Indian courts for their offences. In our study too it has been found that some of the individuals with deformities / missing digits of hand/s had committed crimes under various categories, including homicides.

Almost all people with physical disability now live in the various communities and are susceptible to becoming involved in the criminal justice system as suspects or/and victims. As suspects individuals with this disability are frequently used by other criminals to assist in law-breaking activities, (them) without understanding their involvement in a crime or the consequences of their involvement. They may also have a strong need to be accepted and may agree to help with criminal activities in order to gain friendship/to fulfill monetary needs [11]**(Perske, 2003).**

During the early 1900s, some professionals believed that individuals with physical disability were predisposed to becoming criminals due to their disability. This view lost support during the 1930s when its leaders rescinded their original beliefs and the focus on causes of crime shifted from biological reasons to psychological and sociological ones. Research in mid-1980s and 1990s found that the types of crime committed range from property crimes, like theft or robbery, to physical and sexual assault. Some have been accused of murder as well. One researcher found that many who committed sexual offenses were victimized sexually, and that their experience as a victim was linked to their later experience as the offender [12]**(Firth, 2001).**

OBJECTIVES OF THE RESEARCH

1. To clear up the common misconception that disabled persons are most often victims of crime and are least likely to get involved in criminal activities.

2. To understand and analyse the level of participation of persons with missing digits /fingers of hand/s, in different categories/types of crimes.

MATERIALS AND METHOD

Methodology of infromation/data collection

The research was carried out at Central Finger Print Bureau (CFPB), New Delhi. As it's a national repository of finger prints of the persons convicted under various laws by the Indian Courts. CFPB is storing a finger prints slips of over 1.2 million convicts, both as hard copies and digitial version on Automated Finger Print Identification System (AFIS). Hard copies are stored in pigeon-hole cabinets. There are 72 trays in each cabinet, and approximately 300-400 FP slips are stacked each tray. In this study we have considered only the finger print record slips of the convicts with missing hands or/and fingers.

a) Literature Review

b) 10-digit finger print record slips of convicted persons with missing digit/s of hand/s filed in the record section of the Central Finger Print Bureau (CFPB) carrying finger impressions on one side, conviction and demographic details on the other, provided as a source of raw data.

c) 20,000 (Twenty thousand) ten-digit finger print record slips were manually scrutinized for research, out of which only 422 number of slips were found relevant for our study.

Study design and sampling

We have randomly picked 1-2 trays from different pigeon-hole cabinets, and selected finger print slips of the convicts with missing digits (fingers) of hand/s. The slips are stored serially in these trays on the basis of unique 11 digit unique ID Number, which is called Personal Identification Number (PIN). On scrutinizing 20,000 thousand 10-digit finger print slips, only 422 finger Print slips of the convicts bearing information / details of missing digit/s of hand/s were found. In CFPB, finger print slips of convicts with missing fingers are also stored with other slips; there are no separate trays or cabinets for slips of such convicts.

Exclusion Criteria

Excluded the finger print slips where the finger of hand was mentioned as bandaged/plastered (due to injury/fracture etc). Also the slips of individuals with condition called polydactyly (more than five fingers in hand) were also not taken into account, as the study was about missing fingers of normal/usual hand/s bearing five fingers, thus more than five fingers in any of the two hands did not fit into the selection criteria.

Selection of data/infromation

The relevant details of missing digit/s of hand/s, demographic information and conviction details, from the selected 422 slips were recorded in the data collection sheet for further analysis.

Place and Period of Study

The study was conducted at Central Finger Print Bureau (CFPB), National Crime Records Bureau (NCRB), Government of India, Ministry of Home Affairs, NH-8, Mahipalpur, New Delhi-110037, India, and was completed in six months, from May 2018 to October 2018.

RESULT

Convicts with missing fingers (in numbers) and their participation in different categories of crimes

Data collected from the finger print slips of the convicted persons with missing digit/s of hand/s, was analyzed to gauge the involvement of such convicts in different categories of crimes i.e. Indian Penal Code (IPC), Arms Act, Excise Act, Narcotic Drugs and Psychotropic Substances Act of 1985 (NDPS Act), Code of Criminal Procedure or Criminal Procedure Code (CrPC), and Special & Local Laws (SLLs).

The data of convicts as per the number of missing fingers of hand/s, and their involvement in major categories of crimes, was consolidated in tabular form for ready reference and ease of analysis (Table-3). Afterwards we prepared graphs showing involvement of person with one missing digit, two missing digits, three missing digits, and four missing digits, in different categories of crimes. As mentioned earlier, the total No. of convicts with missing digit/s of hand/s were found to be 422 (Four hundred and twenty two only).

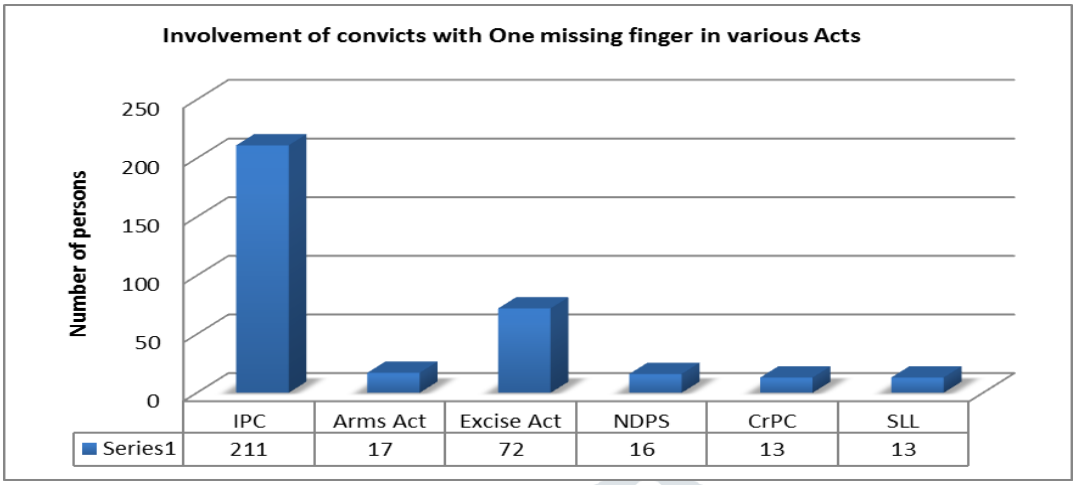
Table-3: Convicts with missing digits (in nos.) and participation in different categories of crimes

Category of Crime	Number of Missing Digit/s of the Convicts			
	One	Two	Three	Four
IPC	211	32	11	12
Arms Act	17	4	1	1
Excise Act	72	6	5	2
NDPS Act	16	1	1	1
CrPC	13	3	0	0
SLLs	13	0	0	0
TOTAL	342	46	18	16
Total Number of convicts with missing fingers			**422**	

Number of convicts with one missing digit of hand

1. Out of a total of 422 finger print record slips of convicts selected for this study, there were 342 individuals with one missing digit of hand. Amonsgt these 342 individuals, 211 were found to be involved in Indian Penal Code (IPC) crimes, 72 of such convicts participated in crimes under Excise Act, followed by 17 involved in crimes under Arms Act. Those part of crimes under NDPS Act were 16 (sixteen). 13 each of such amputees, with one missing finger, had been a part of crimes under CrPC, and Special Legislative Laws (SLLs) respectively.

2. The Graph-1, depicts that participation of convicts with only one missing digit of hand, is more in crimes listed under Indian Penal Code (IPC), which make us realize that such of their disability or deformity did not obstruct them from committing major crimes.

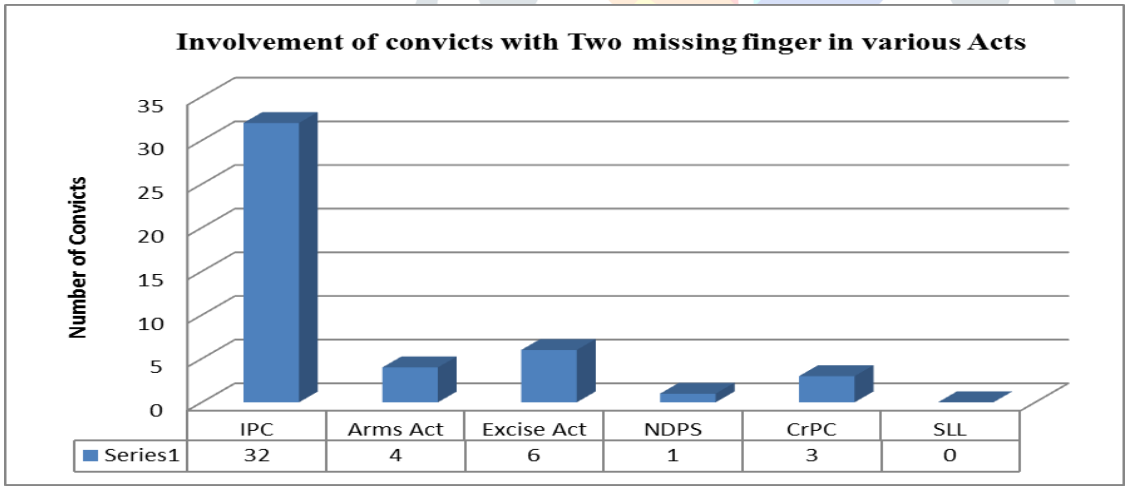


Graph-1: Number of convicts with one missing digit of hand and their participation in different categories of crimes

Number of convicts with two missing digits of hand/s

1. Out of a total of 422 convicts with one or more missing digits of hand/s selected for this study, 46 individuals were found to have two (2) missing digits of hand/s. Amonst these 46 convicts, 32 were found to be involved in Indian Penal Code (IPC) crimes, 06 participated in crimes under Excise Act, followed by 04 involved in crimes under Arms Act. Three (03) of such amputees had been a part of crimes under CrPC. One (01) of such convicts was involved in crimes under NDPS Act.

2. The Graph-2, shows that even with two missing digits of hand/s, involvement percentage of such convicts in major crimes (IPC) is comparatively more, when compared to other category of crimes. Out of 46 convicts with two missing fingers, 32 were found to be involved in IPC crimes, which is 69.56% of their involvement in six major categories of crimes.

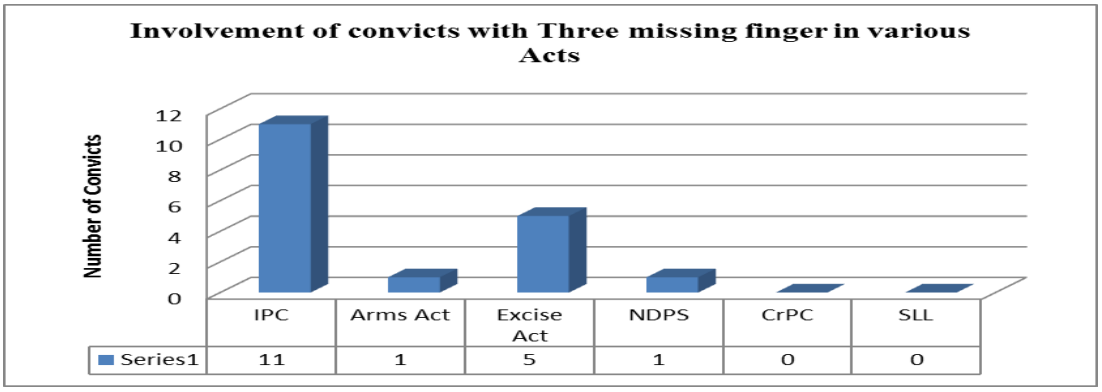


Graph-2: Number of convicts with two missing digits of hand/s and their participation in different categories of crimes

Number of convicts with three missing digits of hand/s

1. Out of a total of 18 convicts with three missing digits of hand/s, there were eleven (11) who were involved in IPC crimes. Five (05) of such individuals participated in crimes under Excise Act, followed by one (01) involved in crimes under Arms Act, and NDPS Act each. There was no convict with three missing fingers to have participated in crimes under CrPC, and SLLs.

2. In Graph-3, we can vizualize that there was a significant decrease in the number of convicts with three missing digits of hand/s, involved in various categories of crimes, including IPC. Only 11 convicts with three missing digits of hand/s participated in heinous or IPC crimes.

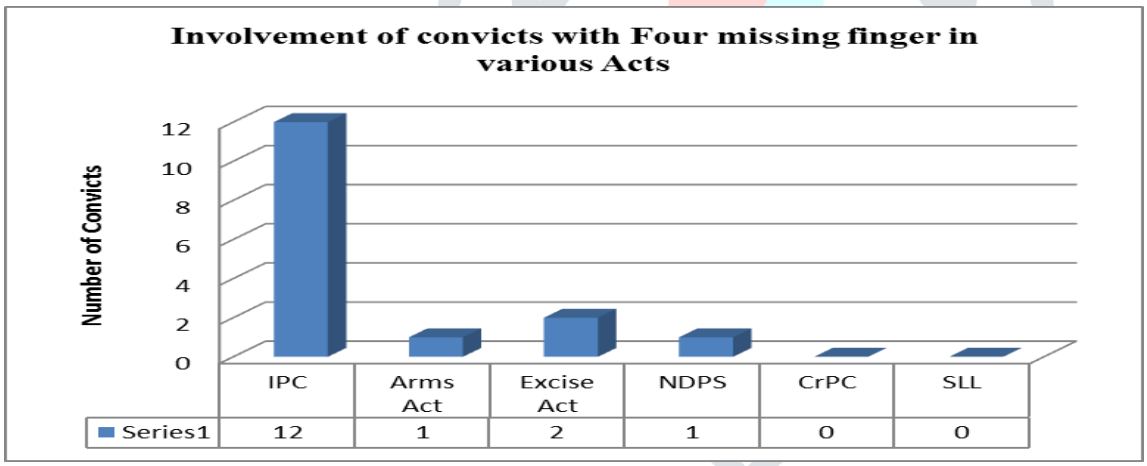


Graph-3: Number of convicts with three missing digits of hand/s and their participation in different categories of crimes

Number of convicts with four missing digits of hand/s

1. Out of a total selected 422 convicts, there were sixteen (16) individuals with four missing digits of hand/s. Twelve (12) of such persons participated in IPC crimes. Two (02) were found to be involved in crimes under Excise Act, followed one (01) participating in crimes under Arms Act. One (01) such amputee with four digits of his hand/s missing, was found to had been involved in crime/s under NDPS Act. None of such convicts was involved in crimes under CrPC and and SLLs.

2. If we compare Graph-3 and Graph-4, not much of a difference is found in level of participation of offenders with three or four missing digits of hand/s in major catergores of crimes. There were eleven (11) convicts with three missing digits of hand/s involved in IPC crimes, whereas those with four missing digits of hand/s participated in 12 (twelve) such crimes. Even the total number of crimes in which individuals of these these two groups participated was similar. There were eighteen (18) convicts with three missing digits involved in different categories of crimes. Whereas the number of convicts with four missing digits of hand/s, who participated in various categories of crimes stood at sixteen (16).

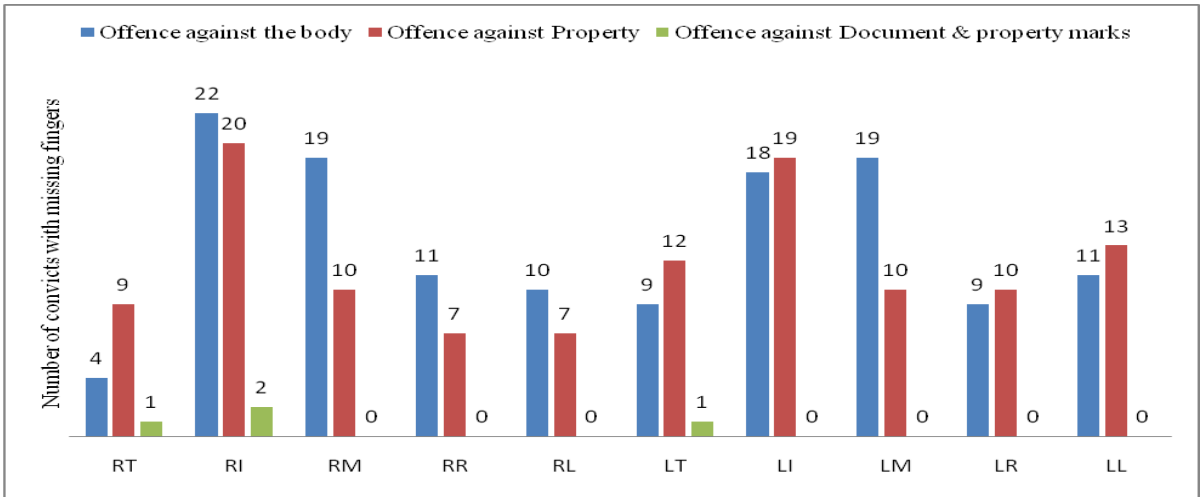


Graph-4: Number of convicts with four missing digits of hand/s and their participation in different categories of crimes

DISCUSSION

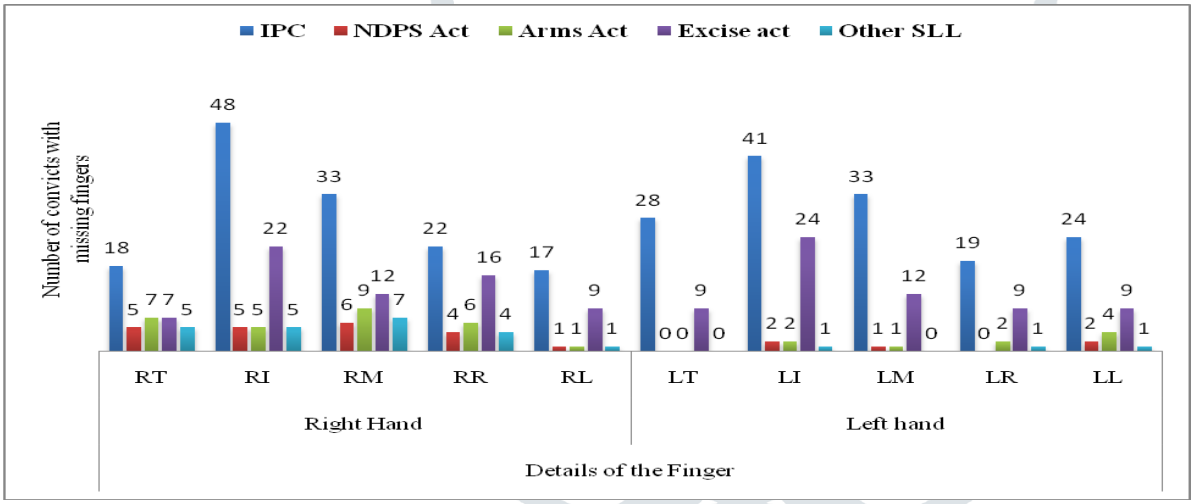
Convicts with missing digit/s of hand/s and their participation in crimes

There was a decrease in the number of convicts involved in overall crime incidences, with increase in the number of their missing fingers, higher was the number of missing fingers, lesser was the participation in total number of crimes. But when we analyzed specific categories of crimes, the picture was some what different. In IPC crimes (which include heinous crimes like murder, attempt to murder etc.), the number of missing fingers of convicts did not seem to have have any negative effect on their participation. **(Graph-5).**



Graph-5: Decrease in involvement in various caterogies of crimes with increase in number of missing digits of hand/s.

Apart from thumb, the index and middle fingers of hand/s are considered dominant, and play critical role in performing skilled work or specialized tasks. Thus missing of a dominant digit/s (i.e. thumb, index, middle) of hand/s should impact the individual, both in routine work as well as specific skills requiring particular finger/s, in our study we have found that convicts committed variety of crime types, even with missing dominant fingers. The reason could be either the convicts trained themselves to perform specialized tasks with other fingers, or they used different hand with intact dominant finger/s to perform criminal activities.



Graph-6: Convicts with missing (specific) digit/s & participation in various categories of crimes

Taking average of persons with missing Left Index (LI) & Left Middle (LM) and Right Index & (RI) Right Middle (RM) fingers as sub-group "A" and missing Left Ring (LR) & Left Little (LI) and Right Ring (RR) and Right Little (RL) fingers as sub group "B", the following figures are obtained on analysis of crime wise involvement of convicts (Table-4):

Table-4: Convicts with missing pairs of digits and participation in major heads of crimes

Major Heads of Crimes	**Average (%) of Persons involved in**	
	"A" (Missing LI & LM and RI & RM)	**"B"** (Missing Left LR & LL and RR & RL)
Murder, Attempt to Murder	25.5 %	10.0 %
Hurt, Grievous Hurt	4.5 %	4.0 %
Theft, Robbery & Dacoity	29.5 %	13.5 %
Explosive Act	4.5 %	4.5 %
Excise Act	28.0 %	19.0 %

Analysis of the data/information shown in Table- 4

1.The persons with missing index and middle fingers of both hands have a significant involvement in heinous offences like Theft, Robbery & Dacoity (29.5%), followed by those involved in Excise Act (28%) and then Murder & Attempt to Murder (25.5%).

2.The persons with missing ring and little fingers in both hands have significantly less participation in Theft, Robbery & Dacoity (13.5%) followed by those involved in Excise Act (19%) and then Murder & Attempt to Murder (10%).

The analysis leads us to infer that the absence of the pairs of index and middle fingers, which are considered to have more utility in day to day and skilled jobs, when compared with the missing pairs of the ring and little fingers, does not seem to act as an obstacle or a deterent, for the persons with such deformities in committing various offences. May be, '*mens rea'* or intention to commit crimes remains the most compelling factor for involvement of individuals even with missing digits of hand/s or physical deformities in crimes. Reasons which influence the individuals with physical deformities to take up crime or built up a resolve or intention to commit crimes, could be same or similar for everyone who jumps into criminal world, irrespective of his/ her physical condition. Unemployment, social exclusion, discrimination, and poverty are few of the major factors influencing youngsters to get involved in criminal activies. Such behaviour may sometimes be a way or method to earn and survive, and in other cases it could for proving or reflecting their worth or might to the society, which generally would be non-inclusive for them because of their physical status.

CONCLUSION

1) There was a decrease in the number of convicts involved in overall crime incidences, with increase in the number of their missing fingers, higher was the number of missing fingers, lesser was the involvement in total number of crimes.

2) Through our research it can be concluded that akin to other criminals with intact or normal fingers, convicts with missing digits of hand/s too can participate in all sorts of criminal offences.

3) The analysis leads us to infer that the absence of pairs of index and middle fingers, which are considered to have more utility in day to day and skilled jobs, when compared with the missing pairs of the ring and little fingers, does not seem to act as an obstacle or a deterrent for the persons with such deformities, in committing various crimes including heinous types like murder, attempt to murder etc.

4) Our study, though may not lead to establish a theory about proficiency of those with missing digits of hand/s to commit crimes, but it certainly can assist the prosecutors/judiciary in better comprehension of the fact, that a plea of missing fingers rendering a person incapable of committing an offence, may not in all circumstances be a legitimate one.

REFERENCES

1. Steinberg, David R. MD (2018), Overview of Hand Disorders, Perelman School of Medicine at the University of Pennsylvania. Last full review/revision Aug 2018| Content last modified Aug 2018 Availabe at: https://www.msdmanuals.com/en-nz/home/bone,-joint,-and-muscle-disorders/hand-disorders/overview-of-hand-disorders Accessed 11.05.2020

2. IDA Forisking, IDA's Insurance Group, Disability Table, Here's is an overview of the disability table from National Board of Industrail Injuries, Copenhagen, V Danmark. Available at: https://idaforsikring.dk/en/disability-table-mentabeller Accessed: 11.05.2020

3. Kumar, Lalit. (2018), Types of Disabilities Covered under the RPWD Act, Laws and Policies, WeCapable.com, Creative Commons, published on 18 May 2018, **Last updated:** 25 September
2019. Available at: https://wecapable.com/disabilities-list-rpwd-act-2016/ Accessed: 11.05.2020

4. *Central Finger Print Bureau Manual*, Schedule of Offences, National Crime Records Bureau, Ministry of Home Affairs, Govt. of India, New Delhi, Doc. No. 105/1/98(5) CFPB Part dated 31.01.2001, 2001:14-15.

5. Singh, S.P. (2005) 'Fingerprint Record Slips: Use as Authentic Tool for Criminal Research', *Indian Journal of Criminology*, Chennai, India, Jan-Jul 2005, 33 (1&2): 77-83

6. Singh, S.P. (2004) 'A study: Involvement of women in violent crimes', *The Indian Police Journal*, New Delhi, India, Jan-March 2004, L1(1): 100-1006.

7. *Census of India 2011*, Registrar General & Census Commissioner, Ministry of Home Affairs, Government of India, Available at http://censusindia.gov.in/2011-common/census_2011.html, Accessed: 08.05.2020.

8. Mont, Daniel. (2004) Disability Employment Policy, Disability and Development Team, The World Bank, 2004: p7, Available at: https://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1433&context=gladnetcollect, Accessed: 08.05.2020.

9. Edmonds, Lorna Jean. 2005. Disabled People and Development. Poverty and Social Development Papers No. 12. Asian Development Bank. Available at: https://hpod.law.harvard.edu/pdf/SAnalysisDis.pdf Accessed: 12.05.2020

10. NCVRW RESOURCE GUIDE-2015, Available at: http://web.worldbank.org/archive/website01291/WEB/IMAGES/DISABILI.PDF Accessed: 11.05.2020.

11. Perske, R. (2003). Observations of a water boy. *Mental Retardation*, 41 (1), 61-64.

12. Firth, H., Balogh, R., Berney, T. Bretherton, K. Graham, S. &Whibley, S. (2001). Psychopathology of sexual abuse in young people with intellectual disability. *Journal of Intellectual Disability Research* 45 (3), 244-252