

# An Empirical Study on Cyber Crimes Against Women and Children in India

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**Abstract:** *The aim of the study is to understand the Cyber-crimes against women and Children in India for a period of five years from 2017 to 2021. The study is based on Secondary data collected from the official website of National Crime Records Bureau. Findings of the study shows that the Cyber-crimes in India shows a raising trend year after year. Other Cyber-crimes against women, Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material and Cyber Stalking/ Cyber Bullying of Women are the most occurring cyber-crimes against women in India. Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material and Defamation/ Morphing against women is raising year by year in India. Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children, Other Cyber-crimes against Children and Cyber Stalking/ Bullying are the most occurring cyber-crimes against children in India. Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children, Cyber Blackmailing/ Threatening/ Harassment and Cyber Stalking/ Bullying against children is raising year by year in India. Percentage of Cyber Crimes against women in Total Cyber Crimes and in Total Crimes against women shows an increase year after year. On an average 20.272 percent of the Cyber-crimes in India are against Women and 2.048 percent of the Crimes against women in India are Cyber-crimes. Percentage of Cyber Crimes against Children in Total Cyber Crimes and in Total Crimes against Children shows an increase year after year. On an average 1.346 percent of the Cyber-crimes in India are against Children and 0.446 percent of the Crimes against Children in India are Cyber-crimes.*

**Keywords:** Cyber Crimes, Cyber crimes against Women, Cyber crimes against Children, Crimes against women and children

## I. INTRODUCTION

One of the specialities of today's world is the arrival of new and new technologies. People are very much eager about the new technologies that arise because it makes life easier. But along with new technologies new criminal opportunities will arise which will ultimately lead to Cyber-crimes. Cyber crimes are the use of computers or similar technologies as a tool for committing illegal things. Such crimes using internet are much more complicated since the computers became one of the essentials in Commerce, Entertainment and Government. As the dependence on computers and internet is increasing day by day, occurrence of crimes which makes use of this technology also raises.

## II. REVIEW OF LITERATURE

**Gandhi (2012)** studied various cyber crimes in internet and identified the major types of cyber crimes such as Cyber Stalking, Hacking, Phishing, Cross Site Scripting, Vishing, and Bot Networks.

**Goyal (2012)** focused on the different ethics in Cyber crimes and discussed that all types of ethics such as business ethics, legal ethics, bio ethics, medical ethics, engineering ethics as well as computer ethics which are applicable to the traditional crimes are applicable to cyber crimes also.

**Vinit Kumar Gunjan, Amit Kumar and Sharda Avdhanam (2013)** gives an overview on cyber crimes and criminals in India and concluded that cybercrimes are more dreadful and disastrous as compared to conventional crimes and every nation will have to be equipped with the knowledge of cybercrime, criminal psychology and rules associated with it.

## 2.1 Statement of the Problem

Humans today depend on computers and internet for most of his needs because he can access everything with a mouse click while being seated in his location. Due to this increasing dependence new and innovative criminal activities using new technologies arise. Cyber crimes are of increasing importance today as they take place in the cyberspace or virtual space and not in the physical space. Sometimes women and children are targeted for this type of crimes. This study is an attempt to understand in detail the raising cyber crimes in India especially against Women and Children.

## 2.2 Objectives

- To study the trend of Cyber-crimes in India.
- To analyse the growth in Cyber-crimes against Women and Children in India.

## III. RESEARCH METHODOLOGY

The study is empirical in nature.

### Sources of Data

The study is based on Secondary data. Data on Cyber-crimes, Cyber-crimes against Women and Children, Crimes against Women and Children in India is collected from the official website of National Crime Records Bureau.

### Period of study

The study covers a period of five years from 2017 to 2021.

### Tools for analysis

For the analysis of data descriptive statistics and percentage analysis is used.

## IV. DATA ANALYSIS AND INTERPRETATION

**Table 1: Descriptive statistics of Cyber Crimes in India from 2017 to 2021**

Year	Cyber Crimes in India
2017	21796
2018	27248
2019	44735
2020	50035
2021	52974
Mean	39358
Std. deviation	13994.48
CV	0.35557
CAGR	0.12546

**Source: Official website of National Crime Records Bureau**

The above table 1 shows the descriptive statistics of the Cyber-crimes in India from 2017 to 2021. During the past five years there was an average of 39358 cyber crimes in India. The standard deviation and Coefficient of Variation is 13994.48 and 0.35557 which indicates there is variability in the number of Cybercrimes occurring in India. Compound Annual Growth Rate of Cyber-crimes in India for the past five years is 0.12456 which indicates that there is a 12.546 percent increase in the occurrence of Cyber-crimes in India.

**Chart 1: Trend of Cyber Crimes in India from 2017 to 2021**

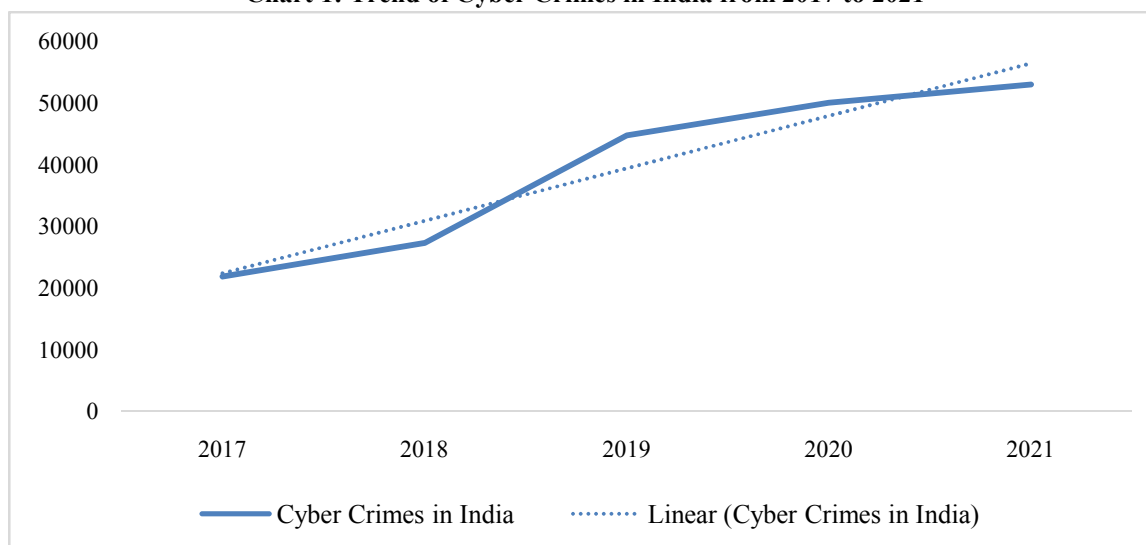


Chart 1 displays the trend of Cyber-crimes in India for the past five years from 2017 to 2021. It is evident from the chart that the cyber crimes in India is increasing year by year. The trend line moves in an upward direction which shows a raising trend in the Cyber-crimes in India.

**Table 2: Descriptive statistics of Cyber Crimes against Women in India from 2017 to 2021**

Year	Cyber Crimes against Women					
	Cyber Black Mailing/ Threatening	Cyber Pornography /Hosting/ Publishing Obscene Sexual Materials	Cyber Stalking/ Cyber Bullying of Women	Defamation/ Morphing	Fake Profile	Other Crimes Against Women
2017	132	271	555	50	147	3087
2018	113	862	738	62	207	4048
2019	113	1158	791	61	289	5967
2020	74	1655	887	251	354	7184
2021	200	1896	1172	276	225	6961
<b>Mean</b>	<b>126</b>	<b>1168</b>	<b>828</b>	<b>140</b>	<b>244</b>	<b>5449</b>
<b>CV</b>	<b>0.3658</b>	<b>0.5522</b>	<b>0.2737</b>	<b>0.8084</b>	<b>0.3252</b>	<b>0.3322</b>
<b>CAGR</b>	<b>0.0866</b>	<b>0.4756</b>	<b>0.1612</b>	<b>0.4073</b>	<b>0.0889</b>	<b>0.1766</b>

**Source: Official website of National Crime Records Bureau**

Table 2 depicts the descriptive statistics of various Cyber-crimes against Women in India for the past five years from 2017 to 2021. Other Cyber-crimes against women has the highest mean value of 5449 followed by Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material and Cyber Stalking/ Cyber Bullying of Women with mean values 1165 and 828 respectively. Cyber Blackmailing/ threatening has the least mean value of 126 followed by Defamation/ Morphing with mean value 140. Defamation/ Morphing has highest coefficient of variation value of 0.8084 followed by Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material with coefficient of variation value 0.5522 which indicates high variation in the occurrence of such crimes. Cyber Stalking/ Cyber Bullying of Women has the least coefficient of variation value of 0.2737 indicating least variation in the occurrence. Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material has the highest Compound Annual Growth Rate value of 0.4756 followed by Defamation/ Morphing with Compound Annual Growth Rate value 0.4073 indicating a high growth in such crimes. Cyber Blackmailing/ threatening has the least Compound Annual Growth Rate value 0.0866 followed by Fake Profile with Compound Annual Growth Rate value 0.0889 which indicates a slow growth of such crimes against women.

Chart 2: Cyber Crimes against Women in India from 2017 to 2021

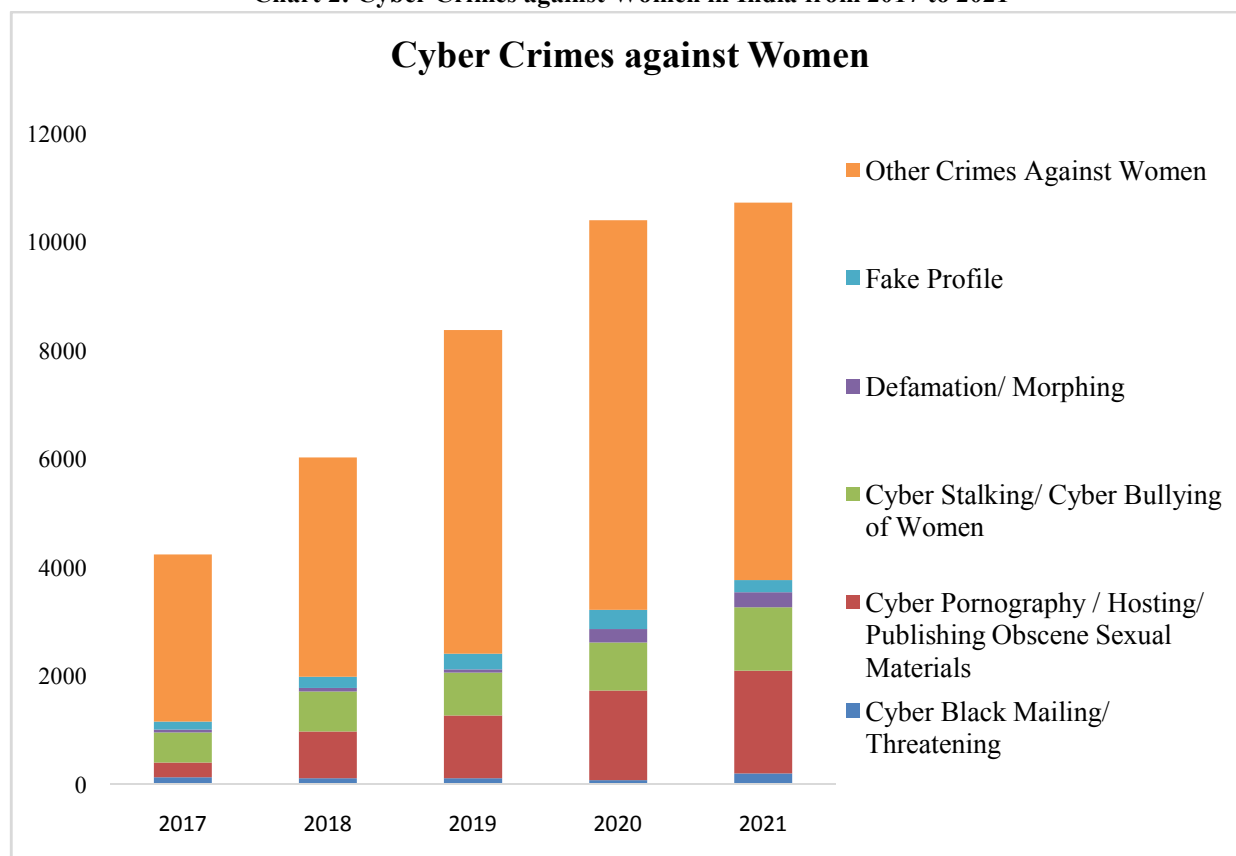


Chart 2 displays various cyber crimes against women in India for the past five years from 2017 to 2021. It is evident from the chart that Cybercrimes against women is increasing year after year and Other Cyber-crimes against women, Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material and Cyber Stalking/ Cyber Bullying of Women are the most occurring cyber crimes against women in India.

Table 3: Descriptive statistics of Cyber Crimes against Children in India from 2017 to 2021

Year	Cyber Crimes Against Children					
	Cyber Blackmailing/ Threatening/ Harassment	Fake Profile	Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children	Cyber Stalking/ Bullying	Internet Crimes Through Online Games etc.	Other Crimes Against Children
2017	1	3	7	7	0	70
2018	4	3	44	40	0	141
2019	3	1	102	45	1	153
2020	3	1	738	140	0	220
2021	23	9	969	123	0	252
Mean	6.8	3.4	372	71	0.2	167
CV	1.34	0.9666	1.2052	0.8090	2.2360	0.4262
CAGR	0.872	0.2457	1.6807	0.7740	-	0.2920

Source: Official website of National Crime Records Bureau

Table 3 shows the descriptive statistics of various Cyber-crimes against children occurred in India during the last five years. Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children has the highest mean value of 372 followed by Other Cyber-crimes against Children and Cyber Stalking/ Bullying with mean values 167 and 71 respectively. Internet Crimes Through Online Games etc has the least mean value of 0.2 followed by Fake Profile with mean value 3.4. Internet Crimes Through Online Games etc has the highest coefficient of variation of 2.2360 followed by Cyber Blackmailing/ Threatening/ Harassment and Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children with coefficient of variation values 1.34 and 1.2052 respectively indicating high variation in such crimes. Other Cyber-crimes against Children has the least coefficient of variation of 0.4262 followed by Cyber Stalking/ Bullying with coefficient of variation 0.8090 which indicates less variation in such crimes. Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children has the highest Compound Annual Growth Rate 1.6807 followed by Cyber Blackmailing/ Threatening/ Harassment and Cyber Stalking/ Bullying with Compound Annual Growth Rate values of 0.872 and 0.7740 depicting a high growth in such crimes. Compound Annual Growth Rate of Fake profile is the lowest with 0.2457 followed by Other Cyber-crimes against Children with values 0.2457 and 0.2920 respectively indicating a slow growth of such crimes in India against Children.

**Chart 3: Cyber Crimes against Children in India from 2017 to 2021**

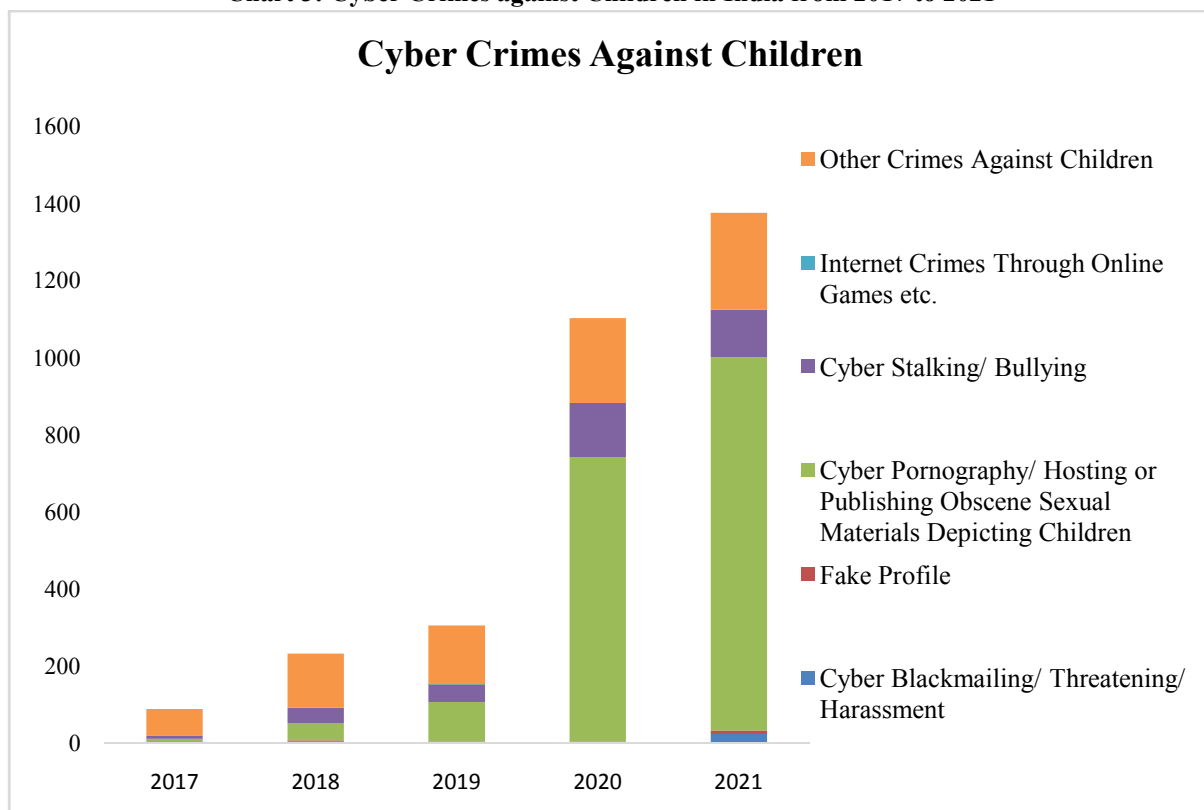


Chart 3 displays various cybercrimes against Children in India for the past five years from 2017 to 2021. It is evident from the chart that Cybercrimes against Children is increasing year after year and Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children, Other Cyber-crimes against Children and Cyber Stalking/ Bullying are the most occurring cybercrimes against Children in India.

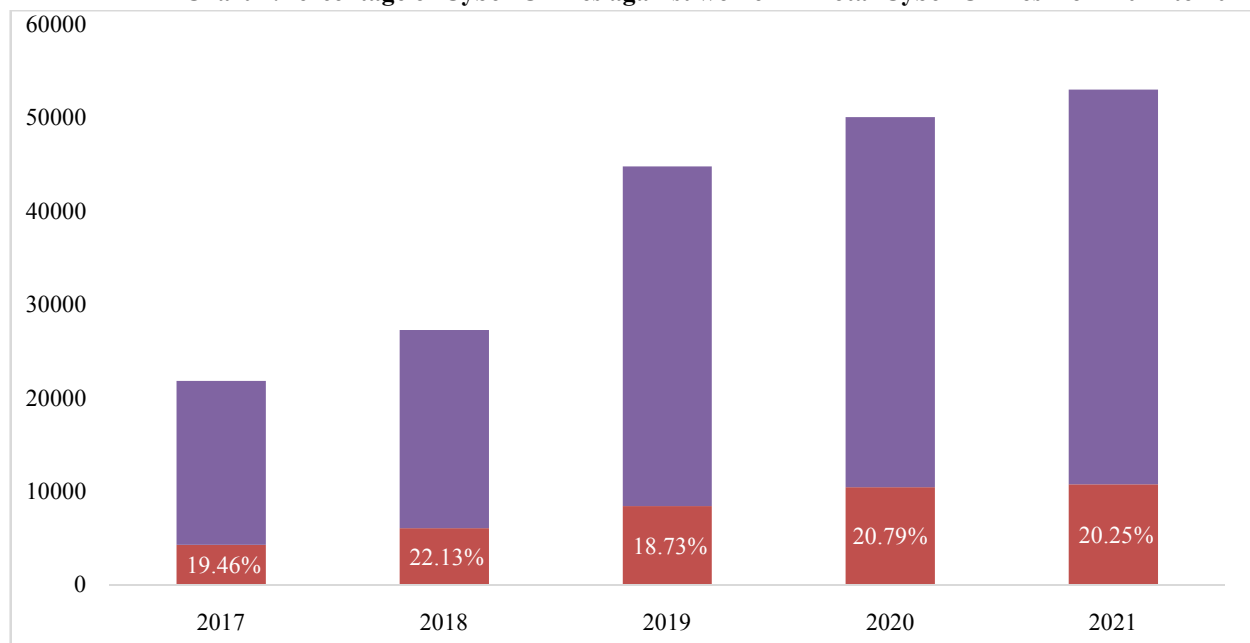
**Table 4: Percentage of Cyber Crimes against Women in Total Cyber Crimes and Total Crimes against Women from 2017 to 2021**

Year	Cyber Crimes against Women	Total Cyber Crimes	Total Crimes against Women	Percentage of Cyber Crimes against women in Total Cyber Crimes	Percentage of Cyber Crimes against Women in Total Crimes against women
2017	4242	21796	359849	19.46	1.18
2018	6030	27248	360339	22.13	1.67
2019	8379	44735	405326	18.73	2.07
2020	10405	50035	371503	20.79	2.81
2021	10730	52974	428278	20.25	2.51
<b>Mean</b>				<b>20.272</b>	<b>2.048</b>

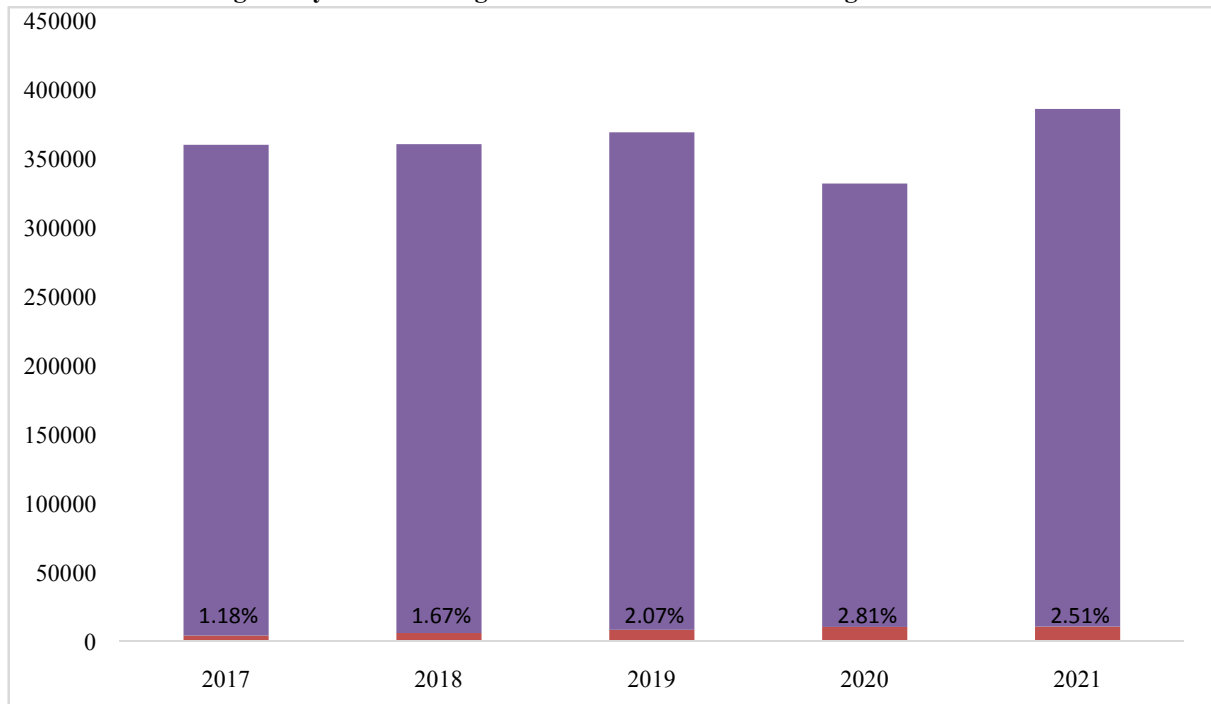
**Source: Official website of National Crime Records Bureau**

Table 4 depicts the percentage analysis of Cyber Crimes against Women in Total Cyber Crimes and Total Crimes against Women in India from 2017 to 2021. Percentage of Cyber Crimes against women in Total Cyber Crimes shows an increase year after year. On an average 20.272 percent of the Cyber crimes in India are against Women. Percentage of Cyber Crimes against Women in Total Crimes against women also shows a rise over the period of time. On an average 2.048 percent of the Crimes against women in India are Cyber-crimes.

**Chart 4: Percentage of Cyber Crimes against women in Total Cyber Crimes from 2017 to 2021**



**Chart 5: Percentage of Cyber Crimes against Women in Total Crimes against women from 2017 to 2021**



**Table 5: Percentage of Cyber Crimes against Children in Total Cyber Crimes and Total Crimes against Children from 2017 to 2021**

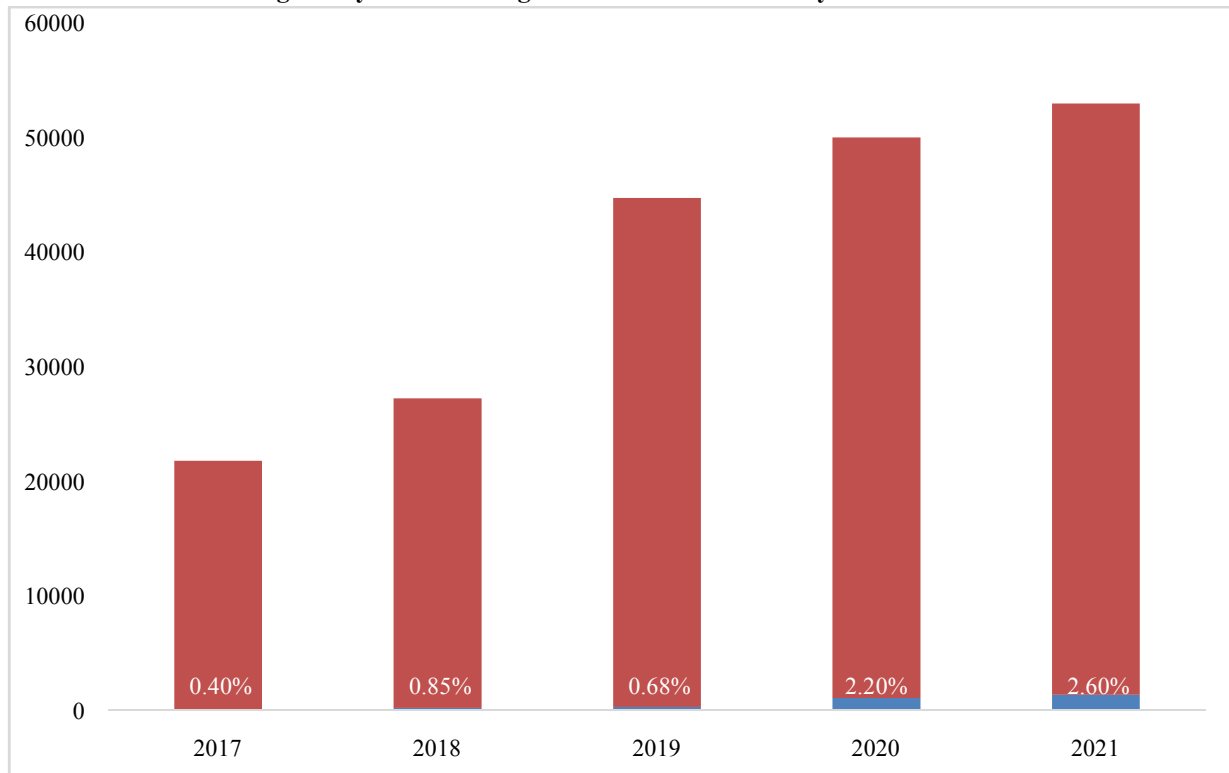
Year	Cyber Crimes against Children	Total Cyber Crimes	Total Crimes against Children	Percentage of Cyber Crimes against Children in Total Cyber Crimes	Percentage of Cyber Crimes against Children in Total Crimes against Children
2017	88	21796	129032	0.40	0.07
2018	232	27248	141764	0.85	0.16
2019	305	44735	148090	0.68	0.21
2020	1102	50035	128531	2.20	0.86
2021	1376	52974	149404	2.60	0.93
Mean				1.346	0.446

Source: Official website of National Crime Records Bureau

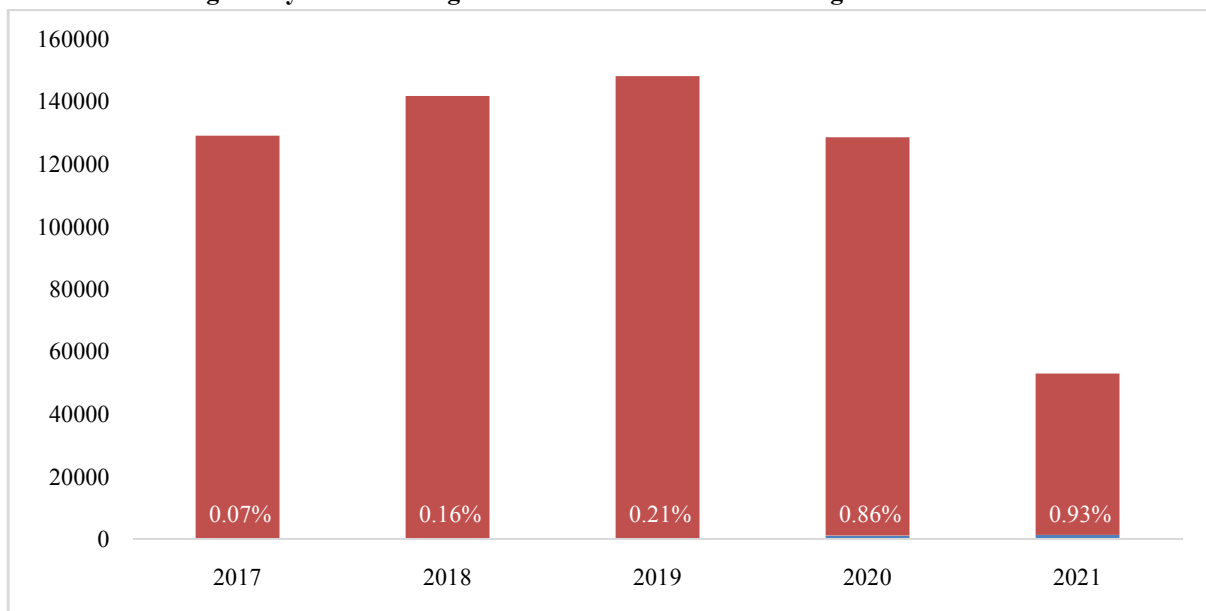
Table 5 shows the percentage analysis of Cyber Crimes against Children in Total Cyber Crimes and Total Crimes against Children in India from 2017 to 2021. Percentage of Cyber Crimes against Children in Total Cyber Crimes shows an increase year after year. On an average 1.346 percent of the Cyber-crimes in India are against Children. Percentage of Cyber Crimes against Children in Total Crimes against Children also shows a rise over the period of time. On an average 0.446 percent of the Crimes against Children in India are Cyber-crimes.



**Chart 6: Percentage of Cyber Crimes against Children in Total Cyber Crimes from 2017 to 2021**



**Chart 7: Percentage of Cyber Crimes against Children in Total Crimes against Children from 2017 to 2021**



## V. FINDINGS

- Cyber-crimes in India shows a raising trend with an annual growth rate of 12.546 percentage.
- Other Cyber-crimes against women, Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material and Cyber Stalking/ Cyber Bullying of Women are the most occurring cyber-crimes against women in India.
- Cyber Pornography/ Hosting/ Publishing Obscene Sexual Material and Defamation/ Morphing against women is raising year by year with a growth rate of 47.56 and 40.73 percent respectively.



- Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children, Other Cyber-crimes against Children and Cyber Stalking/ Bullying are the most occurring cyber-crimes against children in India.
- Cyber Pornography/ Hosting or Publishing Obscene Sexual Materials Depicting Children, Cyber Blackmailing/ Threatening/ Harassment and Cyber Stalking/ Bullying against children is raising year by year with a growth rate of 168.07, 87.2 and 77.40 percent respectively.
- Percentage of Cyber Crimes against women in Total Cyber Crimes and in Total Crimes against women shows an increase year after year.
- On an average 20.272 percent of the Cyber-crimes in India are against Women and 2.048 percent of the Crimes against women in India are Cyber-crimes.
- Percentage of Cyber Crimes against Children in Total Cyber Crimes and in Total Crimes against Children shows an increase year after year.
- On an average 1.346 percent of the Cyber-crimes in India are against Children and 0.446 percent of the Crimes against Children in India are Cyber-crimes.

## VI. CONCLUSION

Cyber-crimes are now being increased in our society due to the increased dependence on technology by people. As compared to traditional crimes cyber crimes possess more threat to the society. Women and children are more targeted for such crimes and the cyber crime rate against women and children keeps on increasing year by year. If the same situation continues in the future it is going to adversely affect the future generation. So, the government should take sufficient actions to keep in control the raising cyber crimes especially towards women and children. Awareness programs should be organised among the public so that they will be aware of the consequences of committing such crimes and also, people can protect themselves from cyber-crimes.

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