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Original Research Paper

Crime against women in Haryana: An empirical study

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The study shows that the crime against women in India as well as Haryana has been increased over the period. further, I found that the ACRG of rape, kidnapping/abduction, and abetment to commit suicide and chain snatching incidences has been negative, while murder, dowry death, molestation, cruelty to women, eve teasing, dowry prohibition act, immoral trafficking act has been negative during the period under consideration in Haryana. Moreover, there is a significant difference was found in missing female & male children and track out rate of missing female and male children in the State. The study also shows that the kidnapping/abduction, abetment to commit suicide, cruelty to women, chain snatching and immoral trafficking act is the major contributors in total incidences of crime against women in the State.

Keywords: Crime, Women, IPC, SLL

INTRODUCTION

Although Women may be victims of any of the general crimes such as-Murder, Robbery, Cheating, etc., only the crimes which are directed specifically against Women are characterized as 'Crimes Against Women'. In India, various new legislations have been made and amendments in existing laws with a view to handle these crimes effectively manners. Further, all these crimes against women are broadly classified into two categories (i.e., crimes under the Indian Penal Code (IPC) and crimes under the Special & Local Laws (SLL)). The details of the above said categories are crimes under the Indian Penal Code (IPC) which include: rape, kidnapping & Abduction for different purposes Homicide for Dowry, Dowry Deaths or their attempts, torture - both mental and physical, molestation, Sexual Harassment, importation of girls (up to 21 years of age) and also crimes under the Special & Local Laws (SLL) which includes; immoral Traffic (Prevention) Act, 1956, dowry Prohibition Act, 1961, the Child Marriage Restraint

(Amendment) Act, 1929, indecent Representation of Women (Prohibition) Act, 1986 and commission of Sati (Prevention) Act, 1987.

Research Problem

The present study is made to know the trends, pattern (composition) and major incidents of crime against women in Haryana in new-economic environment. The remaining paper arranged into five parts. In first part, we have presented the objectives, hypotheses, research methodology and tool and techniques of the study. In second part of the paper the overview of crime against women in India was discussed. Trends of incidents of crime against women in Haryana are discussed in third part of the paper, while composition (pattern) of incidents of crime against women in Haryana is discussed in fourth part of the paper. Missing persons in Haryana along with women, female and male children are discussed in fifth part. In the six part, the major incidents of crime against women in Haryana was studied and conclusion and policy measures in last part of the study.

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OBJECTIVES

To study the trends of incidents of crime against women in Haryana.

To look the composition/pattern of incidents of crimes against women in the State.

To find out the most significant incidents of crime among all the crimes against women in Haryana.

Hypotheses of the Study

H01 = No. of missing female child is more as compared to male child in the State.

H02= Track out rate of missing male children is more than female children in Haryana.

RESEARCH METHODOLOGY

The present study is based on secondary data which collected from the report of National Crime Record Bureau (NCRB), Ministry of Home Affairs, Government of India and Statistical Abstract of Haryana, Government of Haryana. Average Compound Growth Rate (ACGR) and Regression Analysis (Step-wise) have been used. The results of the study are presented in graphical manner.

Average Compound Growth Rate (ACGR)

The average compound growth rate was compounded by the following formula:

$$Y = ab$$

By using logarithm, it may be written as:

$$\log y = \log a + t \log b$$

$$Y^* = a^* + t.b^* \text{ (where } \log y = y^*, \log a = a^* \text{ and } \log b = b^*)$$

The value of b^* is computed by using OLS Method. Further, the value of ACGR can be calculated by followed method:

$$ACGR = (\text{Antilog } b^* - 1) \times 100$$

ANALYSIS

Multiple regressions represent a logical extension of more than two variables regression analyses. Instead of more than one independent variables and one dependent variable is used to estimate the values of a dependent variable. The multiple regression equation describes the averages relationship among more than two variables and this relationship is used to predict or control the dependent variables. The formula for calculating multiple regressions as follow:

The general form of the regression equation is

$$Y = a_0 + a_1X_1 + a_2X_2 + \dots + a_nX_n + \epsilon \dots (i)$$

Where

X_1, X_2 etc. are regressor variables, a_1, a_2 and so on are the parameters to be estimated from the data and ϵ is the error term following classical OLS assumptions.

Student 't' Test

$$s = \sqrt{\frac{\sum (X - M_1)^2 + (X - M_2)^2}{n_1 + n_2 - 2}}$$

$$t = \frac{M_1 - M_2}{s} \sqrt{\frac{n_1 n_2}{n_1 + n_2}}$$

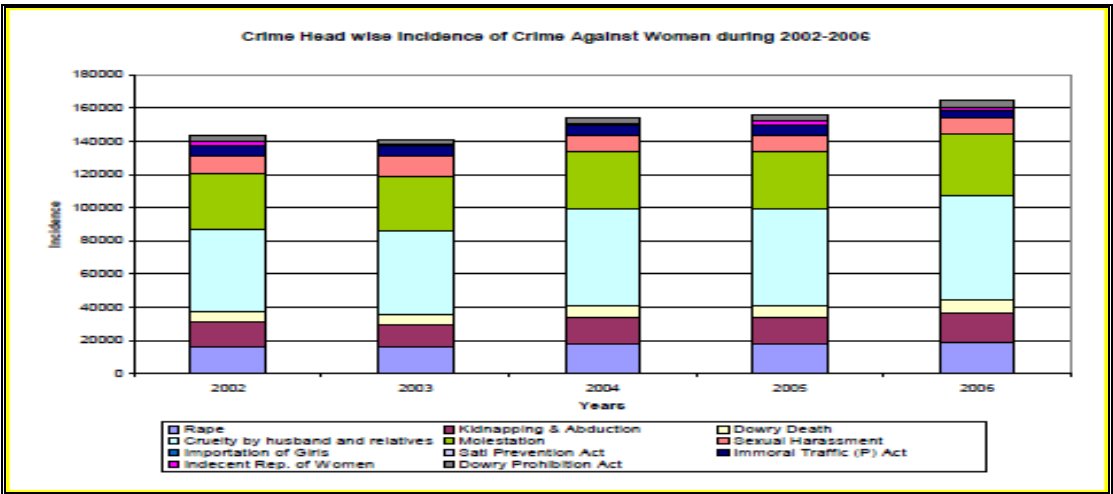
Trends in growth of crime against women in India from 2002 to 2006: a bird eye view

According to the National Crime Record Bureau (NCRB), 143034 incidents was record as a crime against women in 2004 and it increased to 164765 in 2006. The Average Compound Growth Rate (ACGR) of incidents of crime against women has been 2.87 per cent during the period of five year. Moreover, the proportion of IPC crimes committed against women towards total IPC crimes has increased continually during last 5 years from 7.4 per cent in 2002 to 8.2 per cent during 2006. In addition, Andhra Pradesh, accounting for nearly 7.2 per cent of the country's population, has accounted for 13.0 per cent of total incidents of crime against women in the country by reporting 21,484 cases, while Uttar Pradesh, with nearly 16.5 per cent share of country's population has accounted for 9.9 per cent of total crime against women by reporting 16,375 cases in 2006. The Tripura and Delhi have topped two States in the order of crime rate at 28.1 and 28.0 respectively in 2006.

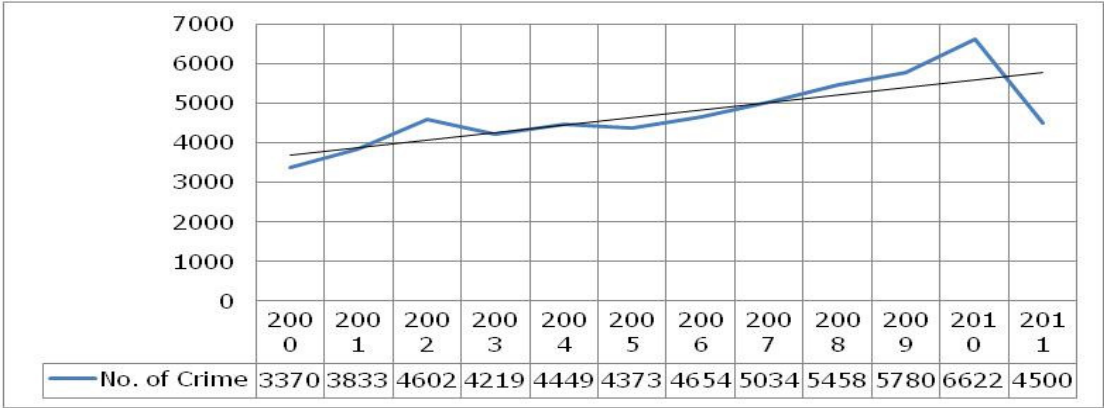
Crime against women in Haryana: trends in growth

Figure 2 illustrates the incidents of crime against women in Haryana from 2000 to 2011. The figure clearly shows that only 3370 incidents of crime against women have been occurred in 2000 and it increased to 6622 in 2010 and finally it decreased to 4500 in 2011. The ACGR of incidents of crime against women in Haryana has been 2.44 per cent during the period under consideration. During the period under study on an average 4741 incidents of crime against women has been occurred, while the CV of the crime incidents has 18.54 per cent. In addition, it was discovered that an average incident of the crime has more in 2007 to 2010.

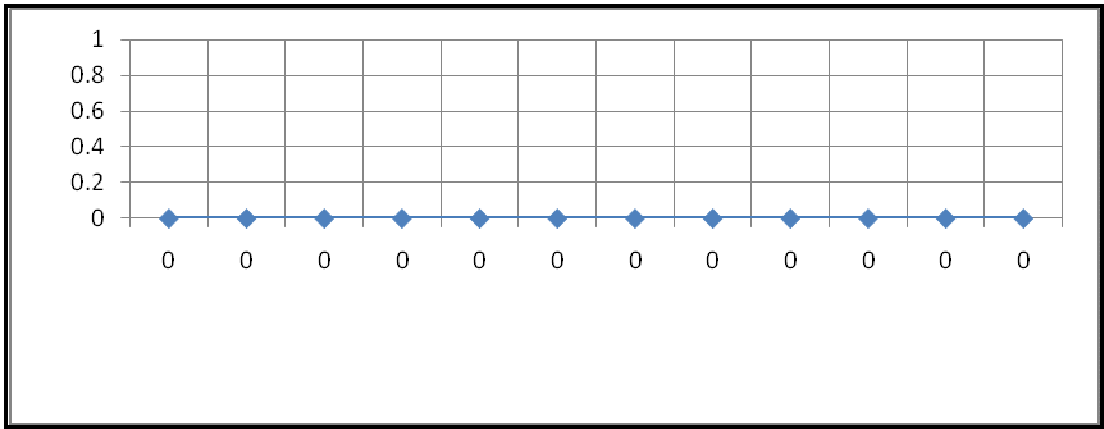
Table 1 reveals the incidents of crime against women in Haryana along with type of crime from 2000 to 2011. The average incidents of murder, rape, dowry death, kidnapping/abduction, molestation, abetment to commit suicide, cruelty to women, eve teasing, chain snatching, dowry prohibition act, immoral trafficking act and total crime against women have been 164, 27, 489, 260, 424,



Source: National Crime Record Bureau (NCRB), Various Issues
Figure 1. Crime against Women in India: An Overview



Source: National Crime Record Bureau (NCRB), Various Issues (In Numbers)
Figure 2. Crime against Women in Haryana



Source: Author Calculation from Table 1
Figure 3. Average Incidents of Crimes against women in Haryana

Table 1. Composition of Crime against Women in Haryana (In Numbers)

Type of Crime	Murder	Culpable Homicide	Rape	Dowry Death	Kidnapping/Abduction	Molestation	Abetment to Commit Suicide
2000	135	40	386	257	295	443	79
2001	141	35	393	272	308	437	75
2002	137	25	376	269	279	407	79
2003	133	19	366	223	258	340	68
2004	142	25	397	229	281	351	76
2005	139	19	457	223	355	368	92
2006	165	33	578	266	351	364	71
2007	185	32	477	291	540	386	115
2008	188	44	618	322	544	403	120
2009	173	33	584	310	667	423	130
2010	259	12	737	282	699	496	167
2011	174	6	499	171	507	320	91

Type of Crime	Cruelty to Women	Eve Teasing	Chain Snatching	Dowry Prohibition Act	Immoral Trafficking Act	Total
2000	1068	472	184	1	10	3370
2001	1373	591	189	0	19	3833
2002	1415	1427	155	2	31	4602
2003	1482	1136	140	2	52	4219
2004	1855	827	206	3	57	4449
2005	1847	530	271	5	67	4373
2006	1978	459	302	5	82	4654
2007	2077	437	397	11	86	5034
2008	2174	549	413	8	75	5458
2009	2337	536	505	4	78	5780
2010	2477	674	750	12	57	6622
2011	1636	385	666	6	39	4500

Source: National Crime Record Bureau (NCRB), Various Issues

(Type Wise)

395, 97, 1810, 669, 348, 5 and 54 respectively from 2000 to 2011 (See figure 3), while the CV of the crimes have 36.17, 11.30, 117.80, 42.29, 159.20, 50.10, 30.14, 425.70, 315.20, 203.40, 3.80 and 25.09 per cent respectively in same period (See figure 4). The ACGR of these crimes have been 2.14, -14.62, 2.16, -3.34, 4.62, -2.67, 1.19, 3.62, -1.68, 11.32, 16.10, 12.01, and 2.44 per cent respectively. It is clear from the data the cruelty to women and chain snatching has been increased, while Eve Teasing has been decreased significantly over the period under study (See details in Table 1).

Figure 5 shows the composition of incidents of crimes against women in Haryana in percentage term from

2001 to 2011. The average contribution of different types of crime against women i.e., murder, culpable homicide, rape, dowry death, kidnapping/abduction, molestation, abetment to commit suicide, cruelty to women, eve teasing, chain snatching, dowry prohibition act and immoral trafficking act have been 3.46, 0.59, 10.28, 5.57, 8.74, 8.54, 2.02, 37.92, 14.55, 7.05, 0.09 and 1.11 per cent respectively from 2000 to 2011 in Haryana. The CV in contribution of different types of crimes against women has 0.36, 0.29, 1.27, 1.05, 2.02, 1.84, 0.31, 4.04, 7.42, 3.35, 0.06 and 0.47 per cent respectively. On the bases of above said figure I conclude that, cruelty to women; rape and chain snatching are area of concern in

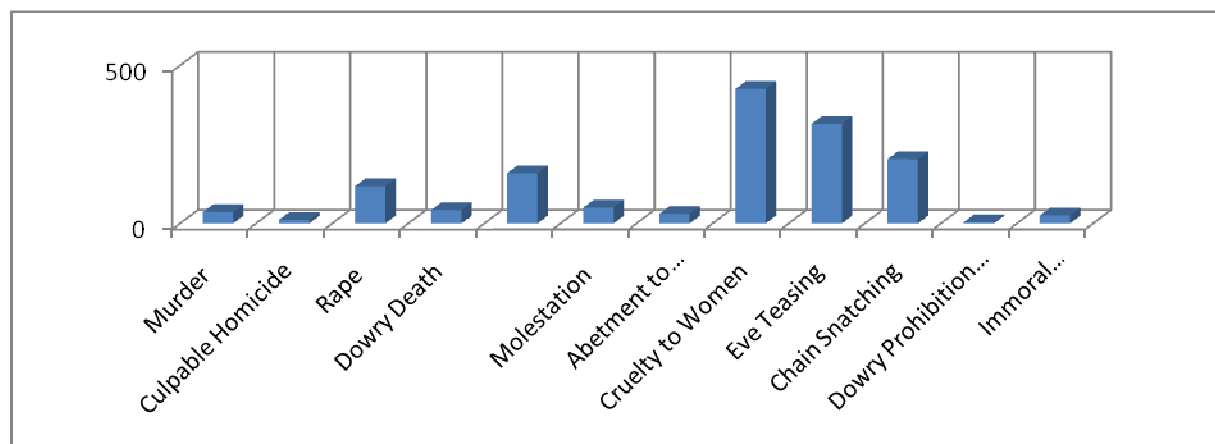


Figure 4. CV of Incidents of Crimes Against women in Haryana
Source: Author Calculation from Table 1 (Type Wise)

Table 2. Details of Missing Persons in Haryana

Year	Women	Track Out	Female Children	Track Out	Male Children	Track Out
2004	221 (100)	109 (19.32)	116 (100)	54 (46.55)	324 (100)	175 (54.01)
2005	273 (100)	127 (46.50)	112 (100)	64 (57.14)	354 (100)	234 (66.10)
2006	225 (100)	198 (88.00)	143 (100)	94 (65.73)	339 (100)	261 (46.99)
2007	563 (100)	318 (56.48)	204 (100)	139 (68.13)	540 (100)	379 (70.18)
2008	616 (100)	294 (47.72)	247 (100)	125 (50.60)	404 (100)	334 (82.67)
2009	692 (100)	414 (59.82)	270 (100)	167 (61.85)	615 (100)	378 (61.46)
2010	1109 (100)	530 (47.79)	244 (100)	116 (47.54)	458 (100)	276 (60.26)
2011	935 (100)	411 (43.95)	174 (100)	84 (48.27)	330 (100)	177 (53.63)
Total	4634 (100)	2401 (51.81)	1510 (100)	843 (55.82)	3404 (100)	2214 (65.04)
Average	1029 (100)	533 (51.79)	335 (100)	187 (55.82)	752 (100)	492 (65.42)
CV	134.65	123.11	132.37	132.64	132.93	132.15

Source: Statistical Abstract of Haryana, Government of Haryana(In Numbers)

Note: Figure in brackets is per cent to total.

Table 3. Comparison of Missing Female and Male Children

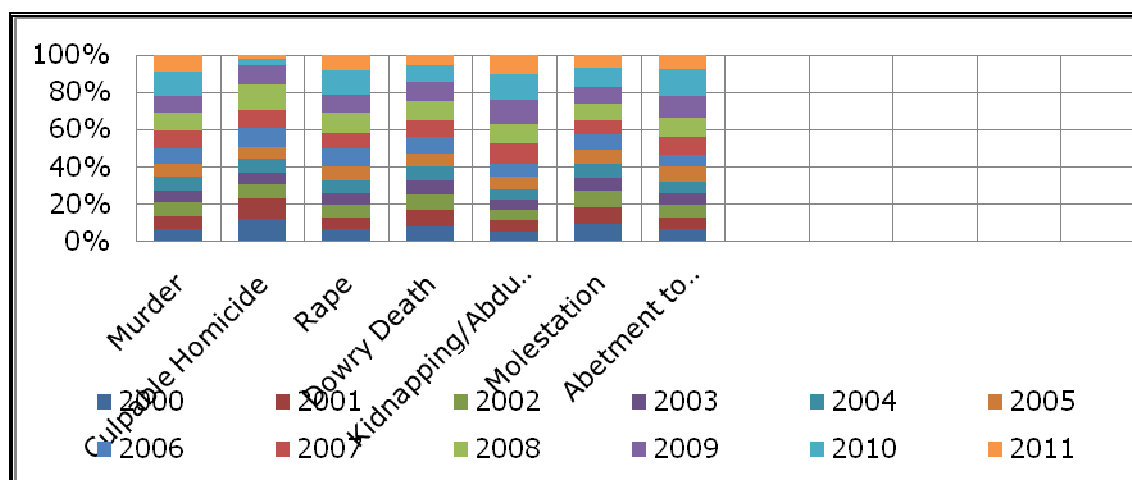
Particular	Mean	SD	't' Calculated	P-Value
Female	188	61.84	-8.982	.000
Male	420	108.46		

Source: Researcher Calculations

Table 4. Comparison of Track Out Rate of Female and Male Children

Particular	Mean	SD	't' Calculated	P-Value
Female	55.74	8.11	-3.16	.013
Male	65.79	9.78		

Source: Researcher Calculations



Source: Researcher Calculation from Table 1 (In Per cent)

Figure 5. Composition of Crimes against Women in Haryana**Table 5.** Major Crime against Women in Haryana

Variables	Model-1 st	Model-2 nd	Model-3 rd	Model-4 th	Model-5 th
Constant	1307.20*	1375.22*	451.85*	396.55*	98.28*
Kidnapping/Abduction	-	-	-	-	3.21*
Abetment to Commit Suicide	-	-	0.65*	0.87*	0.94*
Cruelty to Women	-	13.25*	12.70*	6.94*	1.30*
Chain Snatching	1.89*	1.15*	1.30*	1.295	1.20*
Immoral Trafficking Act	-	-	-	1.15*	1.92*
F-Statistics	54.20**	51.55**	90.75**	183.33**	906.50**
R-Square	0.844	0.920	0.971	0.991	0.999
Adjusted R-Square	0.829	0.902	0.961	0.985	0.998
SE of the Estimate	363.86	275.26	174.14	107.15	43.27

Source: Author Calculations; Note: * and ** significant at 5 % and 1 % respectively

regarding of crime against women in Haryana. Jointly, the average contribution of cruelty to women; rape and chain snatching has 55.25 over the period under study and these crimes are also increasing in the State. Therefore, there is a need of special attention of police department on these types of crimes in Haryana.

Missing women, female and male children and track out rate

Table 2 shows the missing persons in Haryana from 2004 to 2011 along with women, female and male

children. It can be observed from table 2 total 4634, 1510 and 3404 women's, female and male children have been missed in the State during the period of seven years. The CV shows that a high fluctuations in trends of missing peoples in Haryana. The table also reveals the track out rate of missing persons. It is clear from table 2 the average track out rate of women, female and male children have 51.79, 55.82 and 65.42 per cent respectively from 2004 to 2011.

To find out the significant difference between missing female and male children in Haryana, Student's 't' Test has been used. The results of the Test are presented in table 3. The calculated value of the 't' statistics is more

than tabulated value and hence the null hypothesis 'there is no significant different difference between missing female and male children in Haryana has been rejected'.

To study the significant difference between the track out rate of missing female and male children, Student's 't' test was used (See Table 4). It is clear from table 4 that the calculated value of Student's 't' test is more than the tabulated value and hence, concluded that there is a significant difference in track out rate of missing female and male children in the State.

Major incidents of crime against women in Haryana

To find out the major crime [s] (major crime contributor to total crimes) against women in Haryana from 2000 to 2001, step-wise regression approach has used. The results of Step-wise regression are presented in table 4. On the basis of available data and with the help of step-wise regression approach I have generated five different models to explanation the crime against women in the State. The model 1st, 2nd, 3rd, 4th and 5th explains the 84.40, 92.00, 97.10, 99.10 and 99.90 per cent variation in crime against women in Haryana. The step-wise regression approach recommended that the State police should concentrate more and more on women kidnapping/abduction, abetment to commit suicide, cruelty to women, chain snatching and immoral trafficking act.

CONCLUSION AND POLICY MEASURES

In this paper we have analysis the trends in growth and composition of incidences of crime against women in Haryana with the help of ACGR, mean, CV, per cent, Student's 't' test and step-wise approach of regression analysis and found that the incidents of crime against women in India over the periods have been increased significantly (i.e., 143034 in 2002 and 164765 in 2006). The Average Compound Growth Rate (ACGR) of incidents of crime against women has been 2.87 per cent during the period of five year in India. Andhra Pradesh was topped, while Utter Pradesh was lowest (on the basis of population) in regarding of incidences of crime against women in 2006 (NCRB: 2006). The Tripura and Delhi have topped two States in the order of crime rate at 28.1 and 28.0 respectively in 2006 (NCRB: 2006).

The ACGR of rape, kidnapping/abduction, and abetment to commit suicide and chain snatching incidences has been negative, while murder, dowry death, molestation, cruelty to women, eve teasing, dowry prohibition act, immoral trafficking act has been negative during the period under consideration in Haryana. The average contribution of different types of crime against women i.e., murder, culpable homicide, rape, dowry death, kidnapping/abduction, molestation, abetment to commit suicide, cruelty to women, eve teasing, chain snatching, dowry prohibition act and immoral trafficking act have been 3.46, 0.59, 10.28, 5.57, 8.74, 8.54, 2.02, 37.92, 14.55, 7.05, 0.09 and 1.11 per cent respectively from 2000 to 2011 in the State. Moreover, there is a significant difference was found in missing female & male children and track out rate of missing female and male children in the State. The step-wise regression shows that the kidnapping/abduction, abetment to commit suicide, cruelty to women, chain snatching and immoral trafficking act is the major contributors in total incidences of crime against women in the State. On the basis of foregoing analysis we suggest that the State police should be aware that crime against women increase the itinerating in general area and desert areas in particular. In Haryana, Sex-ratio is low as compared to other States of India, while dowry death is high in the State as compared to other, therefore the police should emphasize on more in reducing the No. of dowry death in the State. Moreover, we also suggest that the parents should observe the activities of their children in general and girl in particular as a precaution against crime.

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