

What is keeping women from going to work: Understanding violence and female labour supply

A State-level Analysis

November 2021



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ABOUT THE PUBLICATION

The paper, ***What is keeping women from going to work: Understanding violence and female labour supply*** is an output of the research vertical of the Initiative for What Works to Advance Women and Girls in the Economy (IWWAGE), an initiative of LEAD at Krea University. This document is not a priced publication.

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ABOUT IWWAGE

Initiative for What Works to Advance Women and Girls in the Economy (IWWAGE) aims to build on existing research and generate new evidence to inform and facilitate the agenda of women's economic empowerment. IWWAGE is an initiative of LEAD, an action-oriented research centre of IFMR Society (a not-for-profit society registered under the Societies Act). LEAD has strategic oversight and brand support from Krea University (sponsored by IFMR Society) to enable synergies between academia and the research centre. IWWAGE is supported by the Bill & Melinda Gates Foundation. The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the Bill & Melinda Gates Foundation.

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Lead Author

Neelanjana Gupta

Editorial Support

Atiya Anis

Design

Allan Macdonald

Cover Image

Three Women of Mumbai/Steve Evans/Flickr

LIST OF ABBREVIATIONS

CaB2W	Crimes as a barrier to work
CaW&G	Crimes against women and girls
EUS	Employment Unemployment Survey
FIR	First information reports
FLFPR	Female labour force participation rate
K&A	Kidnapping and abduction
NCRB	National Crime Records Bureau
PLFS	Periodic Labour Force Survey
UT	Union Territory

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ABSTRACT

Falling women's labour force participation rate can be attributed to factors, such as childcare, occupational segregations, infrastructure, safety and mobility, and social identities. Violence against women and girls is also a barrier to their equal participation in and contribution to the society. There are multiple ways in which violence is experienced by women and several contexts in which it occurs, and thus, its costs and consequences are widespread. This paper presents a state-level analysis of how the lack of safety—increasing rate of crime—acts as a barrier to work for women and girls, and the extent to which crimes against women and girls can be associated with the sharp decline in female labour force participation rate (FLFPR) from 31.2 per cent (ESU 2011-12) to 23.3 per cent (PLFS 2017-18). The paper focuses on factors that prevent women from stepping out to work painting a perception of lack of safety. These include rape, kidnapping and abduction, sexual harassment and molestation. At the all-India level, there is a low but negative correlation between FLFPR and overall crime rate, and a moderately negative correlation between FLFPR and kidnapping and abduction. These results are indicative of the general lack of safety of women and can be considered to be a strong factor that discourages women from participating in the workforce. The report finds unexpected results for crimes of rape, molestation and sexual harassment, possibly because of the gross underreporting of these crimes against what is common knowledge from anecdotal evidence. The paper also explores two key gender-oriented factors as potential reasons that can lead to high crime rates against women and girls: these are consumption of alcohol among males using data from the NFHS and male unemployment rate from the PLFS. The paper concludes with recommendations to adopt a 'SAFETY' framework to prevent crimes against women and girls in society.

1

INTRODUCTION

In India, the labour force participation rate of women remained stagnant for almost two decades, between the years 1983 and 2004. Since then, the Indian economy has more than doubled in size and the number of working-age women has grown by a quarter. However, the overall number of women in jobs has declined by ten million. Recent estimates suggest that women in India are less likely to be employed than in other G20 countries, next only to Saudi Arabia (Satyam and Pickup, 2018).

On the one hand, while more women are pursuing higher education and graduating from colleges, on the other hand, we find that they are less likely to join the workforce. Literature cites education as a factor that could have probably led to this decline in FLFPR (Chakraborty et al., 2014), i.e., since women are increasingly enrolling in higher education, they are, therefore, opting out of the labour force. However, Chakraborty et al. reason that women's enrolment in education is only half the story of why women's labour force participation has been declining in India because the decline is consistent across women of all age groups. Afridi et al. (2019) point out that with women's improved education outcomes, there is an aspiration for higher wages. However, there is a mismatch between their expected remuneration and opportunities in the labour market. This paradox merits attention and greater analysis of the problem as to why women are not working.

Research has well established that with the expansion of women's economic opportunities, women as well as their households, and whole societies and economies prosper (Klugman et al., 2014, Satyam and Pickup, 2018, and Chaudhary, 2021). Estimates of the International Monetary Fund suggests that bringing in gender parity in the labour force can boost India's GDP by as much as 27 per cent. However, how and to what extent is India able to advance the agenda of human and economic development by encouraging its women to participate in the workforce remains to be seen.

It is also well established that the fall in women's labour force participation rate can be attributed to factors like availability of childcare,

occupational segregations, lack of infrastructure, concerns around safety and mobility, sociocultural barriers and social identities. It becomes doubly disadvantageous for women from specific caste and religious groups when these intersect with gender. Furthermore, in the Indian context, the female labour force participation rate (FLFPR) has traditionally been lower than the male labour force participation rate due to the role women play as caregivers in families and kinship settings, lower economic opportunities for women, and social restrictions that women must abide by (Sharma, 2021). Long-standing patriarchal norms discourage women from going out of the home alone, especially to take up gainful employment (Mehrotra and Parida, 2017). On the demand-side, the lack of growth in female-friendly jobs and jobs which traditionally employ a higher proportion of women has resulted in low FLFPR (Sharma, upcoming).

In addition, gender norms, expectations and social responsibilities imply that women disproportionately suffer from time poverty and face reduced economic opportunities (UN Women, 2019a). For instance, women are expected to combine domestic and caregiving tasks with income-earning activities, and community and social obligations (ADB, 2013). A report by McKinsey suggests that 83 per cent of women in Bangladesh and 73 per cent of women in Pakistan do not engage in paid work due to their domestic responsibilities (McKinsey, 2018). Women tend to rely on public transportation to travel for family obligations and errands. Global studies find that improved infrastructure—efficient, safer, accessible and affordable public transportation systems—can open up a wider variety of economic options for women by opening up their time to travel for work or for their own business (UN Women, 2019b). Lack of investment in public transport acts as a constraint to women's participation in the labour force (Dewan, 2019).

This state-level study examines how lack of safety of women and girls exhibits a barrier to their participation in the workforce. It attempts to determine the extent to which crimes against women and girls (CaW&G) are associated with a decline in FLFPR, which reduced from 31.2 per cent in 2011 (EUS) to 23.3 per cent in 2017 (PLFS) in India. This paper limits its focus to two fronts: first, it accounts for the violence faced by women outside their homes, inflicted by strangers; and second, it only looks at crimes that act as a

deterrent to women stepping out of their homes out of fear for their safety and wellbeing.

Notable research by Heisi (1998) documents the framework on factors that result in violence against women at different levels of the social ecology. These are (i) personal history—factors that individuals bring to their relationships; (ii) microsystem—the immediate context in which the violence takes place; (iii) the ecosystem—captures institutions and social structures, such as workplace, neighbourhood, social networks and identity groups; and (iv) the macro-system—people's attitudes, beliefs, views and perceptions that permeate the culture of abuse.

This study attempts to adapt Heisi's framework to better understand the factors that perpetrate violence against women and girls, and how crimes act as a barrier to women's participation in the labour force. In the Indian context, the extreme and unchecked infliction of violence on women and girls is manifested at four different levels—(i) at the individual level, childhood experiences of violence, mental disorders, attitudes condoning or justifying violence as normal result in the normalisation of violence; (ii) within the walls of a household where traditional domestic roles and responsibilities dictated by patriarchy, inequality in relationships, the use of drugs and alcohol by men and their multiple sexual relationships, which are the primary causes of physical violence against women causing them mental trauma; (iii) within the immediate community, where factors such as high levels of inequality (in the form of poverty and

unemployment), high rates of crime and violence along with the availability of drugs and alcohol, and poor infrastructure lead to greater incidences of crime against women; and finally (iv) at the societal level in India where blatant practices of caste hierarchies, discriminatory laws in property ownership, low levels of female employment and education, patriarchal norms, lack of enforcement of laws to prevent gender-based violence and gender discrimination in institutions have made violence against women and girls acceptable.

The scope of this paper is limited to the violence inflicted on women and girls at the two broader levels, i.e., at the societal and community levels, where, typically, perpetrators are strangers.

This paper is structured as follows: Section 2 reviews the literature on violence against women globally and in the Indian context, and explores its intersectionality with female labour force participation. Summaries of some hypotheses from feminist literature on why men inflict violence upon women and the costs of violence against women borne by the society and women are also included here. Section 3 introduces the data used to present the argument; and Section 4 presents data findings along with analysis. Section 5 discusses some other factors that can potentially lead to greater rates of crime against women; and Section 6 touches upon some of the limitations faced with respect to crime and labour force participation data. Section 7 lays down an outline of how the state can play a role in curbing gender-based violence and strategies to prevent violence against women and girls.



2 LITERATURE

2.1 On violence against women and girls

Violence against women and girls has been a global phenomenon and has impeded economic and social development for far too long (Day et al., 2005). Women, irrespective of their age and wealth status, have been targeted (Datta and Satija, 2015) while their victimisation has been historically hidden, ignored or accepted as normal (García-Moreno et al., 2015). In December 1993, the United Nations General Assembly recognised that the rights and principles of equality, security, liberty, integrity and dignity should be urgently and universally applied to women, just as for all human beings. The resolution, referred to as the Declaration on the Elimination of Violence against Women, defines ‘violence against women’ “as any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.” (UN Doc A/RES/48/104, Article 2, United Nations General Assembly, 20 December 1993)¹ It includes any act of forcing or so much as attempting to force women, against their will, through violence, threats, verbal insistence, deception, cultural expectation or economic circumstances—as violence against women (Jejeebhoy and Bott, 2003). The UN Women too identifies the act of violence against women as a human rights violation (2020) which prevents them from realising their full potential as human beings and equal citizens in society. It impedes their ability to benefit from attending school, pursuing an education, participation in employment and leading a healthy life, “thus constraining their lifetime opportunities for an education and a career.” (Solotaroff and Pande, 2014)

Globally, women experience violence through the course of their lives, irrespective of their age, wealth status or class, race, ethnicity, caste and religion, in a variety of settings—as intimate as their families, and as broad as their communities or in the larger society (UN Women, 2020). In the South Asian region, violence against women plays out in various forms in historical, social and political contexts. The structure and functioning of the government, conditioning of social institutions and lethargy of the legal system have all contributed to its persistence and normalisation. Venis and Horton observe that “violence against women is the extreme end of a sliding scale of discrimination and prejudice against women”, and the onus of fixing it, in order to achieve a just world, lies with the government (2002).

However, in India alone, there can be diametric perspectives on this. The Vishaka Judgement² laid down certain guidelines making it mandatory for every employer to provide a mechanism to redress grievances pertaining to sexual harassment at the workplace. Sixteen years later, in 2013, the Government of India enacted the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (or POSH Act) and notified rules with the objective of preventing and protecting women against workplace sexual harassment and to ensure effective redressal (Nishith Desai Associates, 2020). In recent years, the government has also actively adopted policies that contribute to the prevention of violence against women in public spaces and strengthened support services for those who experience it. These include the *Beti Bachao Beti Padhao Yojana*, *Swadhar Greh*, and the constitution of the *Nirbhaya* fund, among others. However, the policies and statements of elected government officials—whether it be a senior woman leader commenting that women should not be ‘too adventurous’ to be out on her own at night³, or a male politician remarking on what is ‘inappropriate’ clothing for women⁴—often reflect gender bias and serve as a disincentive for women to explore their full potential.

¹ Day et al., 2005 provides a comprehensive definition of ‘violence against women’ as per the Declaration on the Elimination of Violence against Women

² 1997 6 SCC 241: AIR 1997 SC 3011

³ Soumya murder: CM remark has city fuming, The Times of India, Oct 3, 2008 at <https://timesofindia.indiatimes.com/city/delhi/soumya-murder-cm-remark-has-city-fuming/articleshow/3553662.cms>

⁴ Uttarakhand CM Tirath Singh Rawat stirs controversy, says women wearing ripped jeans set bad example, Zee News, Mar 17, 2021 at <https://zeenews.india.com/india/uttarakhand-cm-tirath-singh-rawat-stirs-controversy-says-women-wearing-ripped-jeans-set-bad-example-2348540.html>

Women and girls experience and fear various types of violence in different public spaces. A global survey by Gallup in 143 countries⁵ in 2011 found that more than 60 per cent of women reported sexual harassment on the street or in public transport (Solotaroff and Pande, 2014). The findings of several other studies are equally alarming: 33 per cent of Canadian women reported having been subjected to unwanted sexual behaviour, and 9 out of 10 women living in urban Cuenca said that they had experienced some form of sexual harassment in the last 12 months. In Sri Lanka, 80 per cent of women and girls faced sexual harassment while taking public transport (Perera et al., 2011).

Like their counterparts in other countries, two-thirds of adolescent girls and young women in rural India feel that public spaces are unsafe for women (UN Women, 2020). A UN Women-supported survey by Jagori in Delhi found that more than 85 per cent of male as well as female respondents thought that sexual harassment of women on city streets was pervasive. Another survey in eight cities of India conducted by Oxfam revealed that 17 per cent of the women respondents reported having faced sexual harassment at work. A survey of non-working women in Delhi showed that safety concern is the second most attributed reason behind their decision to not work (Chakraborty et al., 2014).

2.2 On Female labour force participation and violence

An individual's decision to join the labour force is a rational choice where he or she compares the costs and benefits of doing so. Women choose to "participate in the labour market either to maximise their own utility function or to maximise their households' total welfare" (Mehrotra and Parida, 2017). However, the grounds of this decision-making differ substantially for men and women because the incentive structure for men is different from women's.

A woman chooses to join the labour force only if the net benefit from doing so is greater than the net benefit of not joining, while also accounting for the cost of joining. The benefits of working include wages earned, while the cost of participation in the workforce include transport costs, opportunity cost of getting household chores done (including taking care of domestic

responsibilities within a limited time, foregoing time spent with family and children, etc.). The presence of crime in public spaces, public transport, neighbourhood or at the workplace and the possibility of being abused contribute negatively to this equation, adding to the cost of participation in the workforce, and force women into the decision to drop-off employment (Chakraborty et al., 2014, and Satyam and Pickup, 2018).

Preliminary findings of an upcoming research among young girls in northern India by the University of Munich suggest that women's perception of lack of public safety in public spaces restrict their physical mobility, and, in turn, limits their labour force participation in terms of entry as well as choice of occupation. It also finds that women's perceptions of harassment are more than two times higher than the true rate of incidence, i.e., women overestimate how unsafe they themselves are. Therefore, they tend to prioritise safe commuting conditions when making decisions regarding their employment and movement (2020).

In sum, violence outside homes and the presence of crime forces women to make suboptimal labour supply decisions. For this reason, feminist literature cites safety of women in public transportation and at workplaces as important factors in helping to improve FLFPR and women's economic aspirations (Chaudhary and Verick, 2014, Jayachandran, 2015, and Sharma, Upcoming).

While there is plenty of literature on crime against women—particularly domestic violence and intimate partner violence (Avakame, 1999)—and its economic consequences, little is known about how crimes against women outside the household affect their participation in the labour force and contribution to the economy. In addition, in South Asia, the increasing rates of women's educational attainment and the expanding aspirations to provide for themselves, remaining single has become a viable path for young women. However, almost no literature or data on violence against this particular demographic is available (Solotaroff and Pande, 2014). Despite these general trends and the broad anecdotal evidence, it has not yet been empirically established that a greater incidence of crime stops women's participation in the workforce. Chakraborty et al. (2014) provide

⁵ In multiple cities of China, the Arab Republic of Egypt, India, Israel, Japan, Pakistan, the Republic of Korea, and the United States

one line of thought in this regard—that working women, who are more educated, aware and empowered, are more active in reporting crime cases, which could lead to the observed correlation that a greater female labour force participation leads to higher crime (Chakraborty et al., 2014). However, all dimensions need to be explored.

2.3 Theories on violence against women

Arguments in feminist literature well establish the relationship between violence against women and girls and women's participation in the workforce and their desire to be economically independent. In the Indian society and domestic context, men are conditioned to protect and control female members of the household such that women are conformed to roles defined by traditional norms. Men inflict violence upon women to assert this control—either by resisting the increased relative power of women or by using physical force—and restrict women from identifying as individuals with rights (Xie et al., 2012, and Solotaroff and Pande, 2014). This rationale can be extended to public places and workspaces in what has been termed as backlash hypothesis. The theory suggests that greater gender equality (or reduction in gender inequality) may lead to an increase in violence against women as men feel threatened by the relative improvements in women's status and the breakdown of traditional gender roles (Xie et al., 2012).

With greater global integration, newer sectors of engagement have opened up for women workers. However, women have continued to predominantly engage in activities that are low in productivity, require less or no skill and pay low wages. This has resulted in further segmentation in the labour market, leading to creation of entry barriers in the workforce. Women today are well educated, have an aspiration to join the labour market and earn a living for themselves, and are more conscious than ever before of their 'rightful' place in the society. As a result, their 'involvement in the public' has perpetrated gender conflicts in society which are observed in the form of violent outbursts—blatant, unchallenged and uncontrolled display of hatred—against women by men. It becomes puzzling that as women endeavour into new spaces, there is an increased pressure or a 'backlash' on women to retreat into the confines of their households. With advances in women's status and the narrowing of the male-

female status gap, women's rate of victimisation, unexpectedly, would increase as males use violence as a means to reassert their relatively diminishing patriarchal power and authority (Avakame, 1999).

Empirical research supporting the backlash hypothesis, thus far, holds true for domestic violence and not for violence inflicted by strangers outside households. However, the lifestyle and routine activities theory predicts a similar outcome as the backlash hypothesis but with a different argument. It focuses on how changes in women's activity patterns, or supply of labour affects their exposure to potential offenders. The lifestyle and routine activities theory states that an absolute increase in female labour force participation is associated with an increase in the victimisation of women by strangers and non-family members or known others (outside the domestic setting) (Xie et al., 2012). The reason being that as women are placed out of their homes, for work or other activities, chores and errands, they stand a greater risk of exposure to violence, and are more vulnerable to victimisation. This theory is widely debated because, on the one hand, as women gain access to economic resources, are more educated, and earn an income, they are considered to be more protected and secure, which should reduce female victimisation rates. On the other hand, as per the lifestyle and routine activities argument, women's participation in the labour force increases their exposure to victimisation (Xie et al., 2012).

2.4 Cost of violence against women

The violation of women's rights should not be seen as a gender issue alone. The lost opportunity for women to equally participate in and contribute to society should be addressed as a matter of concern that has huge social and economic costs and consequences (Day et al., 2005, García-Moreno et al., 2015, and UN Women, 2020). These costs accumulate and have a detrimental impact beyond the victim on a larger ecosystem. Solotaroff and Pande (2014) identify that violence against women affects women and their families and also hampers developmental efforts of the government, NGOs and other institutions that are aimed at poverty reduction. These consequences are further amplified for developing nations that are already struggling with poor socio-economic outcomes of poverty, inequality, low income,

poor worker productivity, low female labour force participation, lack of accumulation of human and social capital, as well as the persistence of various forms of violence in the present and the future (Bott et al., 2005, and Luca et al., 2015).

An expert brief compiled by the United Nations on the economic costs of violence against women aptly classifies the costs of violence inflicted upon women and how they are a burden for the larger society. It states that “every recognisable effect of violence has a cost whether it is direct or indirect” (Day et al., 2005). On the one hand, there are direct costs associated with the use of goods and services for which a monetary exchange is made after the incident. These exist for capital, labour and material input, such as the cost of delivering care to victims (including physical health and mental well-being), or the cost related to legal and justice response (UN Women, 2020). On the other hand, there are also indirect costs, which do not involve an actual monetary exchange (no

actual expenditure is incurred), but are assigned an imputed monetary value based on opportunity cost. The indirect costs include lost income or reduced profit due to a decline in or a lack of productivity (Day et al., 2005); hesitancy to seek employment (Solotaroff and Pande, 2014); increase in the cost of travelling to work to use safer routes (Chakraborty et al., 2014); or the undercutting of women’s rights to use public spaces as freely as men do (Solotaroff and Pande, 2014). This study focuses on these indirect costs that stem from the effects of violence against women. Finally, there are also some intangible costs related to violence against women, such as premature death and pain and suffering. However, there is no imputed monetary value associated with these costs. As explained earlier, the indirect and intangible not only increase a woman’s cost of participating in the workforce but also discourage her from doing so (Chakraborty et al., 2014).



3

DATA AND METHODOLOGY

This analysis uses two kinds of state-level data. The first is the female labour force participation rate in 2011-12 and 2017-18, and the second is crime rate against women.

3.1 Female Labour Force Participation

3.1.1 Female Labour Force Participation in 2011-12

Female labour force participation rate for 2011-12 was captured in the National Sample Survey Office's (NSSO) report on the Employment and Unemployment Situation in India, 2011-12. The Employment and Unemployment Survey (EUS) was conducted between July 2011 and June 2012 in the 68th round of NSS. It covered 1,01,724 households of which 58.6 per cent belonged to rural areas and 41.3 per cent to urban areas. The survey enumerated 4,56,999 persons who were further disaggregated into broad activities and employment status by educational qualification, age group, gender and geographic area for 35 states and UTs of India (excluding Telangana).

NSS considers individuals as being part of the 'labour force' if they are either 'working' (or employed) or 'seeking or available for work' (or unemployed). The labour force participation rate is accordingly calculated as the ratio of the sum of employed and unemployed persons to the total population. Statement 4.1.2 (p. 117, EUS report 2011-12) in the report of the EUS published in January 2014, refers to the labour force participation rate (number of persons/person-days in the labour force per 1000 persons/person-days) for persons aged 15 years and above in rural and urban areas put together across all states and UTs.

The data for females under the 'usual status' is considered, i.e., taking principal and subsidiary activities (ps+ss) together. Under the usual status approach, the activity status of a person is based on the reference period of the last one year. Workers who perform some work activity either in the principal status or in the subsidiary

status fall under usual status (ps+ss). The usual principal activity status is the activity status on which a person spends a relatively long time (as per major time criterion) during the 365 days preceding the date of survey. The usual subsidiary economic activity status includes persons whose usual principal activity status is determined based on the major time criterion and who could have pursued some economic activity for a shorter time during the reference period of 365 days preceding the date of survey or for a minor period, which is not less than 30 days during the reference year.

Table A in the Appendix presents female labour participation rate (FLFPR) for states/UTs in per cent terms according to usual status (ps+ss) for persons aged 15 years and above in rural and urban areas. Using this definition, the all-India FLFPR in 2011-12 was 31.2 per cent. Himachal Pradesh (63.3 per cent), Sikkim (62.8 per cent), Chhattisgarh (55.3 per cent) and Meghalaya (54.8 per cent) had a FLFPR of more than 50 per cent. States that fared poorly with an FLFPR of less than 20 per cent were Bihar (8.7 per cent), Delhi (14.8 per cent), Assam (17.3 per cent) and Haryana (19.5 per cent); while the UTs of Daman and Diu (11.6 per cent) and Chandigarh (17.2 per cent) also fell in the low FLFPR category.

3.1.2 Female Labour Force Participation in 2017-18

In order to analyse the trends in FLFPR, this study considers data on the female labour force participation rate for 2017-18. This data comes from the Periodic Labour Force Survey (PLFS) conducted between July 2017 and June 2018, and published in May 2019 by the National Statistical Office. To some extent, PLFS differs from the EUS with respect to sampling design, structure of the schedule inquiry, survey methodology and data collection mechanism. The differences are well documented in the introductory annexe of the PLFS 2017-18 annual report, though top-level indicators across EUS and PLFS do provide a certain degree of comparability.

PLFS 2017-18 covered 1,02,113 households and 4,33,339 persons, with 54.9 per cent households from rural areas and 45 per cent from urban areas. The definitions of labour force, labour force participation rate, usual principal activity status and subsidiary economic activity status remained the same as those adopted in 2011-12. Similar to the analysis undertaken for 2011-12, this study

considers data on labour force participation for females in 2017-18 using the 'usual status' (ps+ss) approach. Table 16 (p. 203, PLFS report 2017-18) of the PLFS report presents LFPR according to the usual status (ps+ss) approach for persons aged 15 years and above across 36 states and UTs. We consider the data in this table for females in rural and urban areas combined. A snapshot of this data is shown in Table A in the Appendix.

The all-India FLFPR in 2017-18 stood at 23.3 per cent, a 7.9 percentage point fall from 2011-12. While the FLFPR in Meghalaya (51.2 per cent), Himachal Pradesh (49.6 per cent), Chhattisgarh (49.3 per cent) and Sikkim (43.9 per cent) continued to remain the highest in India, the overall rate of FLFPR fell in comparison to 2011-12, as observed in Figure 1. The states of Bihar (4.1 per cent), Tripura (12.5 per cent), Assam (12.7 per cent), Uttarakhand (13.5 per cent) and Haryana and Delhi (14.3 per cent) ranked poorly in terms of FLFPR in 2017-18.

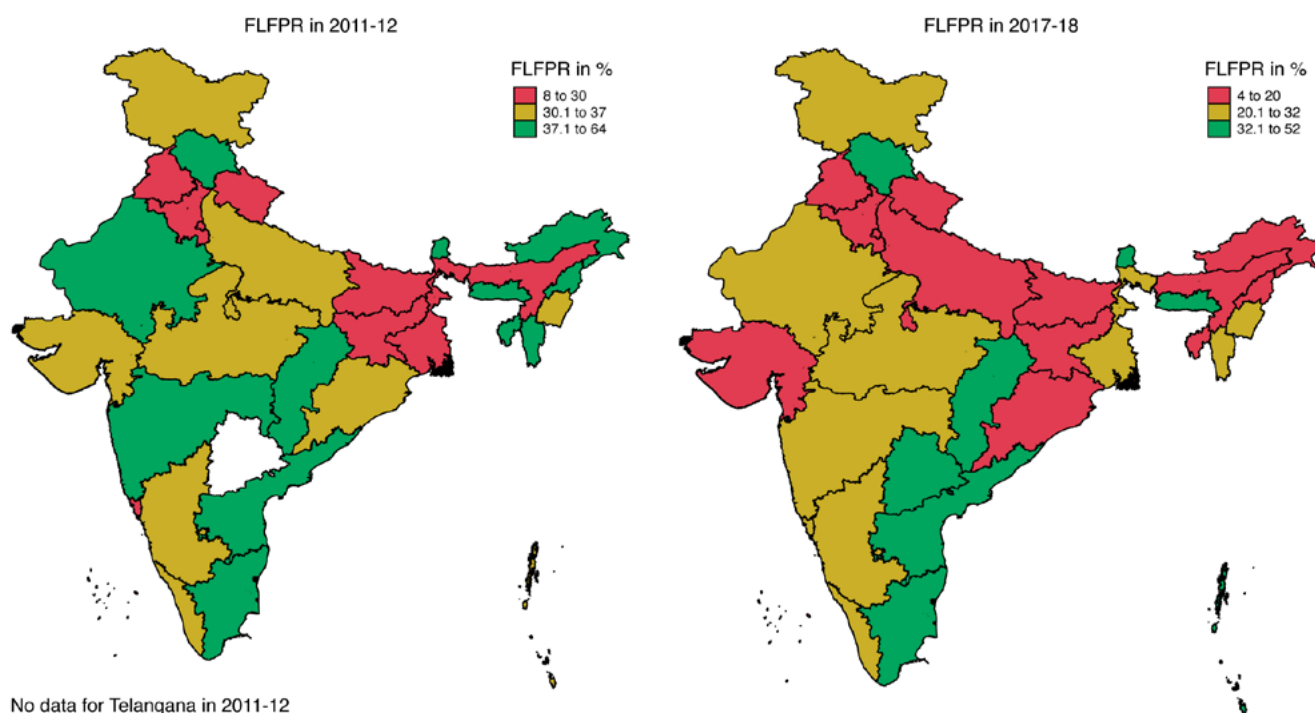
and Nagar Haveli and Daman and Diu. While the FLFPR increased only marginally in Madhya Pradesh by 1.1 percentage point, that for the UTs saw a significant rise—Goa (6.6 per cent), Chandigarh (8 per cent), Daman & Diu (13.3 per cent) and Dadra & Nagar Haveli (18.4 per cent).

3.2 Crime

The National Crime Records Bureau publishes detailed statistical information on the crimes reported across the country in its annual compendium called Crime in India (reference period being a calendar year, i.e., January 1 to December 31). However, there are a few caveats to the crimes recorded and reported by the NCRB.

First, the information in this annual publication is obtained from state and UT police organisations, central law enforcement agencies, Central Armed Police Forces and Central Police Organisations⁶,

Figure 1: FLFPR across states and UTs for 2011-12 (left) and 2017-18 (right).
Data source: EUS 2011-12 and PLFS 2017-18



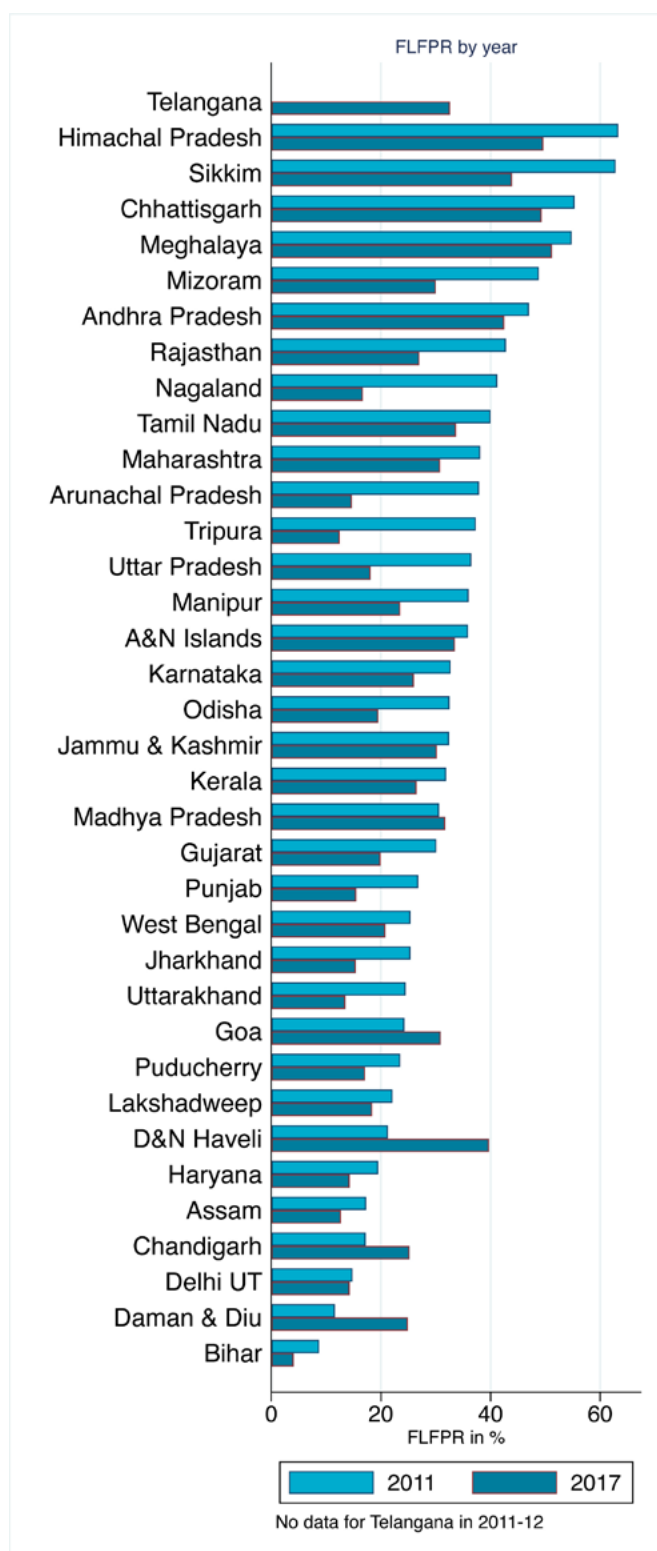
A comparison across the two time periods, as seen in Chart 1, suggests that FLFPR fell in all states/UTs of India, other than in Madhya Pradesh and four UTs—Goa, Chandigarh, Dadra

and hence, the compendium captures only police recorded crime cases for which first information reports (FIRs) are filed. For this reason, previous

⁶ A list of all police organisations is available on the NCRB website at <https://ncrb.gov.in/en/police-links>

Chart 1: FLFPR across states and UTs for 2011-12 and 2017-18.

Data source: EUS 2011-12 and PLFS 2017-18



research has also not been able to accurately capture the full extent of the correlation between socio-economic outcomes and crimes against women. It has been established that most estimates on the prevalence of gender-based violence reflect a certain degree of under-

reporting (Wadia and Nale-Tajane, 2021). This happens due to two possible reasons.

First, women are reluctant to disclose their experiences either due to fear of reprisals such as damaging their reputation (Bott et al., 2005), or fear of accepting guilt (Deol, 2020), or are ashamed of drawing stigma associated with reporting crime (Greenfeld, 1997, and Avakame, 1999). Second, that the very definition of what accounts as crime is vague, abstract and poorly understood (Fitzgerald, 1993). For example, in the United States, sexual harassment is not included in the Uniform Crime Reports (UCR) database (national data on crime published by the Federal Bureau of Investigation) because legally, it is a civil rights violation and not a crime; and amongst all crimes, rape is found to be especially prone to measurement errors (Avakame, 1999).

These challenges lead to formal reports of violence wrongly decreasing over time. This fall in incidences or the rate of crime does not imply that women are not experiencing violence. In fact, it is more alarming because it suggests that women are unable to report violence or seek help through the regular channels (UN Women, 2020). Thus, families, the justice system, institutions and political groups alike offer no support to women to report cases of violence and actually seek justice. This is found to be particularly true for crime incidents of rape and sexual harassment (eve-teasing). The cases recorded and reported as per NCRB are in sharp contrast with what anecdotal evidence suggests.

The paucity of data as well as its poor credibility make it difficult to determine the actual degree to which crimes against women and girls are committed, and the rate at which they have been increasing or decreasing (Mohan, 2018). And this is not a challenge in present-day India alone. For instance, Avakame (1999) studied the UCR to determine the association between FLFP and incidents of rape in 1992 and 1994. The research finds that UCR data grossly misrepresents the true incidences of rape. UCR too, like NCRB, is a record of crimes known to the police. Avakame states that, "to become known to the police...crimes survive a succession of police and victim decisions. First, someone must recognise that a crime has occurred and notify the police. Second, the police must investigate the notification. Third, the police must conclude that a crime has occurred and proceed to record it." (p. 931, 1999). Despite these steps being

followed, a number of reasons contribute to the misestimation of incidences of crime—the victim or the police are in a position to redefine the incident at any stage, or lapses, such as miscommunication or poor record keeping could lead to misinterpretation.

Next, as per the international standard, the NCRB follows the 'Principle Offence Rule' for classification of the crime, i.e., in incidences where multiple offences are registered in a single FIR case, only the most heinous crime (with the maximum punishment) is considered as a single 'counting unit'. For both these reasons, the NCRB presents what critics argue, a gross underestimate of what might be the true extent of actual crimes in the country.

The NCRB calculates 'crime rate' as the number of cases reported per lakh of population of the respective segment, in this case, women, or:

$$\text{Crime rate} = \frac{\text{Number of cases reported}}{\text{Population of women (in lakhs)}}$$

The same formula is applied to determine the rate for other specific crimes as well. However, in recent times, academics, experts and other stakeholders have cautiously warned that this calculation is significantly erroneous because the census population figure, as of 2011, in the denominator are outdated (Wadia and Nale-Tajane, 2021).

Over the years, the classification of crimes captured by NCRB has evolved to become more sophisticated; the divergence in the data for 2011 and 2017 due to these nuances is described below and in the sub-sections that follow.

This study uses two criteria to pick variables of crime that act as barriers to work for women. First, it considers the crimes that paint a perception of lack of safety are usually inflicted by strangers, which acts as a deterrent and prevents women from stepping out to work or join the labour force. These include rape, kidnapping and abduction (K&A), sexual harassment (including eve-teasing), molestation, attempt to rape, acid attack and cybercrimes (or women-centric crimes under the IT Act). These are all crimes that instil fear in the minds of citizens, especially women, and are factors that limit women from participation in the workforce. Other crimes, listed in Tables 1 and 2, that are either not inflicted by strangers or do not present barriers for women to step out of their homes out of fear for their safety are

not considered in the analyses and discussion of this study. These are crimes related to cruelty by husband and family, dowry, immoral trafficking and importation of women and girls, miscarriage, abetment of suicide, etc. Homicide or murder has not been listed as a separate classification by the NCRB in presenting crimes against women and girls.

Next, for consistency and comparison, the analysis is limited to crimes that have been reported by NCRB for both years 2011 and 2017 so that some trends can be identified. Since three crimes—attempt to rape, acid attack and cybercrimes—were not separately indicated in the report for 2011, they were studied only for the year 2017. The remaining four comparable crimes were studied to identify trends for both years. These are collectively referred to, for purposes of this study, as 'crimes as barriers to work' (CaB2W) and include rape, K&A, sexual harassment and molestation.

Furthermore, for the year 2017, many of the relevant crimes identified for this study, have been classified as those committed against girls (under the age of 18 years) and women (above 18 years of age). Since a similar classification is not available in 2011 and to keep the comparison consistent across time, the study considers incidences of crime against all females—women as well as girls—in its calculation.

Finally, between 2011 and 2017, the reporting of crimes under kidnapping and abduction became more nuanced. Crimes under Sections 363-369 and 371-373 of the IPC were reported in one single bucket under 'kidnapping and abduction'. On the other hand, crimes for each of these sections were reported individually in 2017. In keeping with the incidences of K&A in 2011, the equivalent was calculated for the year 2017 by summing up the crimes reported under Sections 363-369 and 371-373 of the IPC in 2017. This is derived as the sum of all crimes listed as K&A, human trafficking, and selling and buying of girls, and excludes the importation of girls from foreign countries.

3.2.1 Crimes in 2011

Table 1 provides a snapshot of the crimes (column 1) that NCRB identified as 'crimes against women' in its annual report in 2011. These are crimes that are specifically against women and are broadly classified under two categories: (i) Indian Penal Code (IPC), and (ii) Special and Local Laws (SLL),

which include gender specific laws. Column 2 indicates the number of incidences⁷ reported against each crime, and column 3 presents the share of all crimes reported in 2011, respectively. Almost half of all CaW&G (48.6 per cent), accounted for CaB2W. A further analysis of CaB2W suggests that a large majority of crimes that pose a threat to women's safety and prevent them from stepping out to work (column 4) were incidences of molestation (38.6 per cent) and K&A (31.9 per cent). Rape accounted for 21.7 per cent of these crimes, followed by sexual harassment (7 per cent).

Tables B, C, D and E in the Appendix show state-wise rates of crime for the four CaB2W. Here, the base for the calculation of crime rate, i.e., population of women in the state or UT in 2011, is based on the provisional population of census 2011.

and additional 'new age crimes' were reported in 2017 compared to 2011. Thus, three crimes in the year 2017, in addition to those referred to as CaB2W, are identified as crimes that may potentially act as barriers to women entering and participating in the workforce. These are attempt to rape, women-centric cybercrimes and acid attack.

In 2017, more than 54.8 per cent of all CaW&G add up to crimes that serve as a potential barrier to women entering the workforce. Even in comparison to just the four crimes identified as CaB2W, 53.48 per cent of all CaW&G deter women from participating in the economy. Similar to the trend followed in 2011, molestation (43.5 per cent) and K&A (33.6 per cent) account for a majority of these crimes, followed by rape (16.5 per cent) and sexual harassment (3.7 per cent). While the number of incidences reported against

Table 1: Crimes against women and girls, 2011.
Data source: Crime in India, 2011 Statistics, NCRB

Crime (1)	Incidences (2)	Share of all crimes (3)	Share of crimes that are barriers to work (4)
Molestation	42968	18.79%	38.60%
Kidnapping and abduction	35565	15.55%	31.95%
Rape	24206	10.59%	21.75%
Sexual harassment (eve-teasing)	8570	3.75%	7.70%
Cruelty by husband and relatives	99135	43.36%	
Dowry deaths	8618	3.77%	
Dowry Prohibition Act, 1961	6619	2.89%	
Immoral Traffic (Prevention) Act, 1956	2435	1.06%	
Indecent Representation of Women (Prohibition) Act, 1986	453	0.20%	
Importation of girls	80	0.03%	
Sati Prevention Act, 1987	1	0.0004%	
All-India Total	228650		
Crimes that are barriers to work	111309	48.68%	

3.2.2 Crimes in 2017

Table 2 shows the rate of crimes against women and girls as reported by NCRB in 2017. The population of women in states and UTs was estimated on the basis of the 2001 census. While the crimes are reported under the same categories as earlier (IPC and SLL), the types of crimes reported have evolved over the years,

the three new age crimes is small, attempt to rape (2.1 per cent), cybercrimes (0.3 per cent) and acid attack (0.08 per cent), they add up to almost 2.5 per cent of CaB2W.

An initial snapshot suggests that in 2011, almost half (48.68 per cent) of all CaW&G accounted for CaB2W, and this increased to 53.48 per cent in 2017 (54.8 per cent if new age crimes

⁷ Incidence is defined as the number of FIRs registered

Table 2: Crimes Against Women and Girls, 2017.
Data source: Crime in India, 2017 Statistics, NCRB

Crime (1)	Incidences (2)	Share of all crime incidences (3)	Share of crimes that are barriers to work (4)
Assault on women with intent to outrage her modesty (molestation)	86001	23.90%	43.58%
Kidnapping & abduction of women (incl. selling & buying of girls)	66412	18.46%	33.66%
Rape	32559	9.05%	16.50%
Insult to the modesty of women (sexual harassment)	7451	2.07%	3.78%
Attempt to commit rape	4154	1.15%	2.11%
Cyber Crimes/Information Technology Act (Women-centric crimes only)	600	0.17%	0.30%
Acid attack	148	0.04%	0.08%
Cruelty by husband or his relatives	104551	29.05%	
Protection of Children from Sexual Violence Act (Girl Child Victims only)	31668	8.80%	
Dowry Prohibition Act, 1961	10189	2.83%	
Dowry deaths	7466	2.07%	
Abetment to suicide of women	5282	1.47%	
Immoral Traffic (Prevention) Act, 1956 (women victims' cases only)	1536	0.43%	
Human trafficking	662	0.18%	
Protection of Women from Domestic Violence Act	616	0.17%	
Miscarriage	266	0.07%	
Murder with rape/gang rape	223	0.06%	
Attempt to acid attack	35	0.01%	
Indecent Representation of Women (Prohibition) Act, 1986	25	0.01%	
Importation of girls from foreign countries	5	0.001%	
All-India Total crimes against women and girls	359849		
Crimes that are barriers to work	197325	54.84%	

are included). At an all-India level, the rate of molestation accounts for a majority of CaB2W; this rate has quadrupled over time (Table 3). The rate of incidences of rape has risen from 2 per cent to 5.2 per cent. There has also been an increase of more than three times in the rates of K&A.

In 2011, the smaller states of Nagaland (1.9 per cent), Daman & Diu (4.5 per cent), D&N Haveli (5.2 per cent), Puducherry (7.1 per cent) and Goa (8.7 per cent) had the lowest crime rates in India, whereas the states of Tripura (37 per cent), Assam (36.9 per cent), Kerala (33.8 per cent), Andhra Pradesh (33.3 per cent), West Bengal (31.8 per

cent) and Delhi (31.2 per cent) had high crime rates. Interestingly, while the north-eastern states of Nagaland (1.9 per cent) and Sikkim, Manipur and Meghalaya (all at around 9 per cent) had the lowest overall crime rates across India in 2011, Assam and Tripura had the highest rates of crime.

As seen in Chart 2, by 2017, the overall crime rate for Lakshadweep jumped from 0 per cent (2011) to 14 per cent. Nagaland (6.9 per cent) and D&N Haveli (9.9 per cent) continued to have the lowest rate of crime in the country. In contrast, Assam (143.6 per cent) and Delhi (133.3 per cent) had the highest crime rate in India in 2017, which quadrupled since 2011. While there is no

Table 3: All-India Rate of Crime Against Women and Girls, 2011 and 2017.*Data source:* Crime in India, 2011 Statistics and 2017 Statistics, NCRB

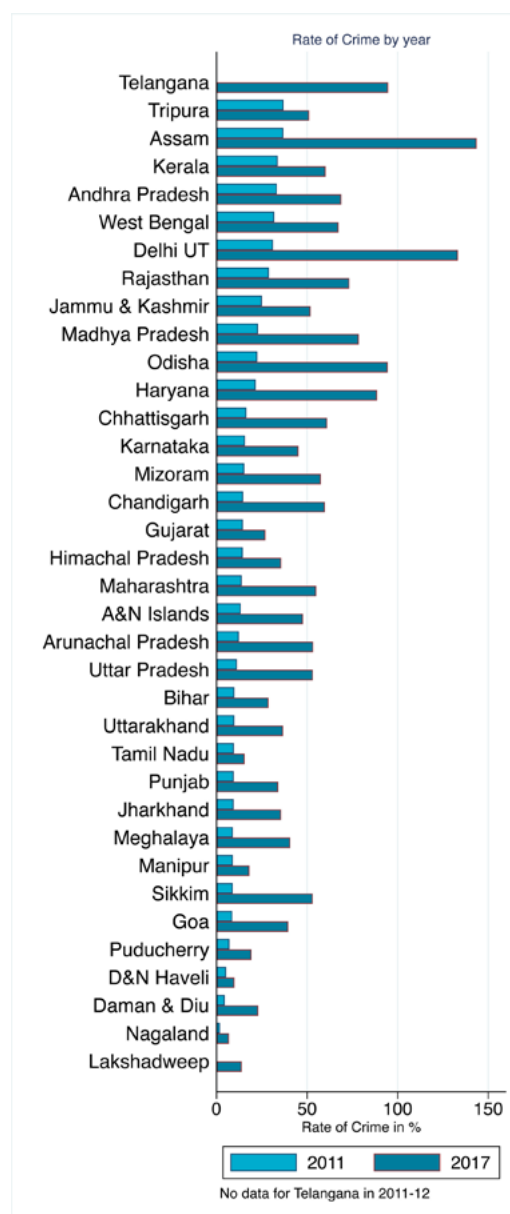
Crime	2011	2017
Overall crime rate	18.89	57.9
Rape (Sec. 376)	2	5.2
Kidnapping & Abduction (incl. Selling & Buying of Girls; Sec. 363-369, 371-373 IPC)	2.9	10.69
Sexual Harassment (eve-teasing) OR Insult to the Modesty of Women (Sec. 509)	0.7	1.2
Molestation OR Assault on Women with Intent to Outrage Her Modesty (Sec. 354 IPC)	3.6	13.8
Attempt to Rape (Sec. 376/511 IPC)	-	0.7
Acid Attack (Sec. 326A IPC)	-	0.02
Cybercrimes/Information Technology Act (Sec. 67A, 67B IT Act)	-	0.1

comparative estimate available for Telangana in 2011, it ranked poorly with an overall crime rate of 94.7 per cent, only marginally higher than Odisha (94.5 per cent).

Crime rate in the four states, Assam, Delhi, Odisha and Haryana saw the most drastic jump between 2011 and 2017, whereas D&N Haveli, Nagaland and Tamil Nadu saw smaller changes in this period. No state or UT saw a decline in the overall crime rate against women and girls during this time.

3.3 Methodology

The state-level data for FLFPR using EUS 2011-12 and PLFS 2017-18, and rates of crimes from NCRB's statistics reports for the years 2011 and 2017 were compiled. The findings are based on a simple summary and a pairwise correlation analysis between the variables for the respective years in this paper. The resulting Pearson correlation coefficient, denoted as r , measures the magnitude (strength) and direction of association (positive or negative) between FLFPR and rate of crime for the set of observations, i.e., states and UTs.

Chart 2: Crime Rate Across States and UTs for 2011 and 2017.*Data source:* Crime in India, 2011 Statistics and 2017 Statistics, NCRB

4 ANALYSIS

4.1 Crimes as a Barrier to Work

Between 2011 and 2017, while the all-India FLFPR saw an eight percentage point decline, the overall rate of CaW&G more than tripled to 57.9 per cent (Table 3). For all states and UTs, running simple correlations can help better determine the nature and direction of the

the crime rate in a state or UT increases, FLFPR decreases (Figure 2). Furthermore, the negative relationship has slightly strengthened for the said period, suggesting that a higher crime rate is increasingly a factor that discourages women from participating in the workforce. States like Himachal Pradesh, Meghalaya, Chhattisgarh and Sikkim show consistency over time in that they have maintained high FLFPR and low rate of crime in comparison with other states and UTs. Similarly, while the crime rate in Assam and Delhi has remained extremely high, and increased by as much as four times, their FLFPR has been very low.

Figure 2: FLFPR and Overall Crime Rate Correlations, 2011 and 2017.
Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB

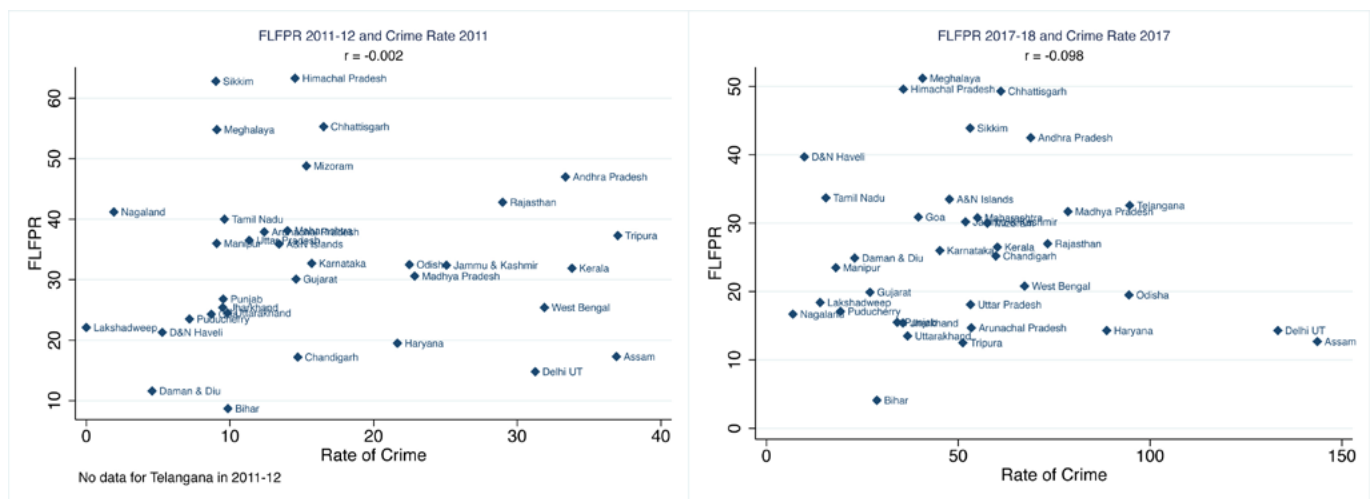


Table 4: All-India Rate of Crime Against Women and Girls, 2011 and 2017.
Data source: Crime in India, 2011 Statistics and 2017 Statistics, NCRB

Correlation between FLFPR and Crime	2011	2017
Overall crime rate	-0.002	-0.098
Rape (Sec. 376)	0.295	0.147
Kidnapping & Abduction (incl. Selling & Buying of Girls; Sec. 363-369, 371-373 IPC)	-0.294	-0.309
Sexual harassment (eve-teasing) OR Insult to the Modesty of Women (Sec. 509)	0.343	0.036
Molestation OR Assault on Women with Intent to Outrage Her Modesty (Sec. 354 IPC)	0.058	0.291
Attempt to Rape (Sec. 376/511 IPC)	-	-0.262
Acid Attack (Sec. 326A IPC)	-	-0.201
Cybercrimes/Information Technology Act (Sec. 67A, 67B IT Act)	-	-0.008

relationship between FLFPR and crimes against women and girls. There is a negative, albeit very low, correlation between FLFPR and the overall crime rate (Table 4). This implies that as

For both years, 2011 and 2017, there is a moderately negative correlation between the FLFPR and rate of K&A, which also became marginally stronger by 2017 (Table 4).

Unexpectedly, the rates for rape, molestation and sexual harassment show a low positive correlation with FLFPR. However, the correlations for rape and sexual harassment have weakened between 2011 and 2017. New age crimes (attempt to rape, acid attack and cybercrimes) show a negative relationship with FLFPR in 2017. On the basis of these basic estimates, K&A, attempt to rape and acid attack can be considered significant factors that discourage women from participating in the workforce.

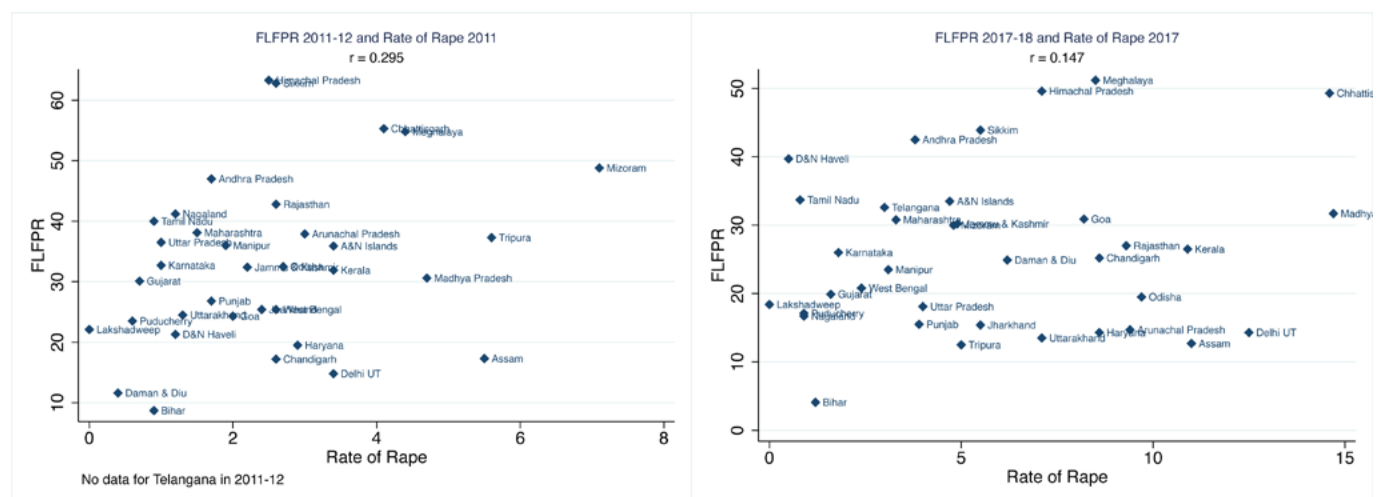
4.2 Rape

Past research has established that sexual victimisation affects labour market outcomes of the victim, and is more often than not a significant matter of stigma for the victim (García-Moreno et al., 2015). Sabia et al. (2013) argue that incidents of sexual violence, assault, rape, etc., impose psychological costs and have physical health consequences on the victim. They also suggest that this may impede women's marriage opportunities if they result in unwanted pregnancy (Sabia et al., 2013). Thus, merely the risk of fear of rape has been found to be negatively associated with human capital accumulation and labour supply (Borker (2017), Siddique (2018), Jaychandran (2015, 2020),

them back in place of social subordination and gaining control (O'Brien, 1991, and Avakame, 1999). However, while the US Census data supports the argument that an overabundance of women (improved sex-ratio and gender equality) is positively associated with the rate of rape (Ellis and Beattie, 1983), Avakame's (1999) research based on data for the United States in 1992-94, found that contrary to the hypothesis, unemployed women are more likely to be raped than employed women, perhaps because this research also considers accounts for domestic violence and intimate partner violence. The findings of Avakame's study are in contrast to Ellis and Beattie (1983).

At the all-India level, the rate of rape incidents increased by more than 2.5 times between 2011 and 2017 (Table 4). Although there is a positive correlation observed between the rate of rape and FLFPR, the coefficient has fallen over the time period studied (Figure 3). The decline in the strength of the positive association from 0.29 in 2011 to 0.14 in 2017 could be suggestive of increased awareness of rape among women and girls. However, as mentioned in section 3.2, the incidents of crime reported are evidently a gross underestimation. If data was accurately reported, there would be a negative correlation between rate of rape and FLFPR.

Figure 3: FLFPR and Rate of Rape Correlations, 2011 and 2017.
Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB



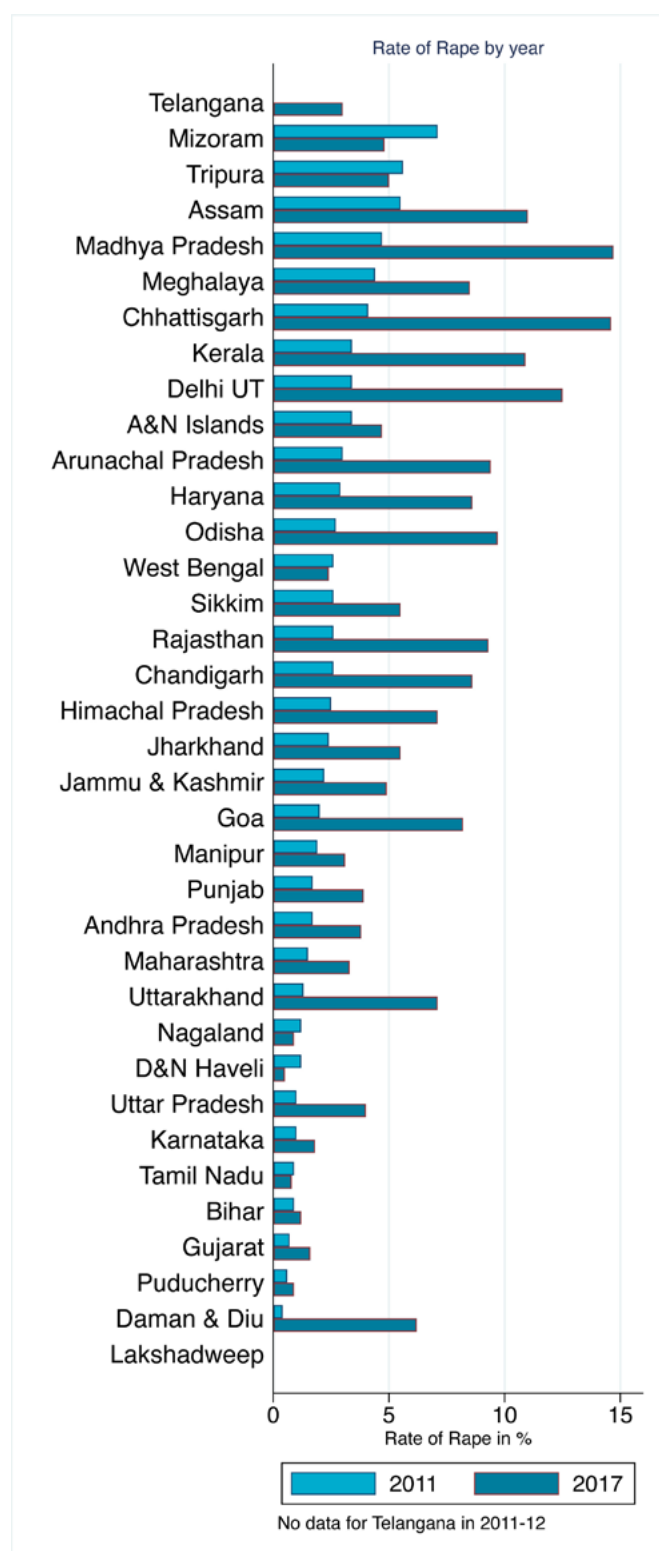
(Sharma, Upcoming)). In furtherance, the backlash hypothesis suggests that FLFPR would increase rape victimisation of women by aggravating men as they channel their frustration, resentment and humiliation at seeing women's upward mobility (resulting in gender equality) by putting

While the rates of rape incidents were low in the states of Daman & Diu (0.4 per cent), Puducherry (0.6 per cent), Gujarat (0.7 per cent), Tamil Nadu and Bihar (0.9 per cent), the north-eastern states of Mizoram (7.1 per cent), Tripura (5.6 per cent), Assam (5.5 per cent) and Meghalaya (4.4 per

cent), along with Madhya Pradesh (4.7 per cent) reported the highest rates of rape in 2011 (Chart 3). By 2017, there were some significant changes observed in the ranking of states and UTs by rate of rape. For instance, D&N Haveli (0.5 per cent), Tamil Nadu (0.8 per cent), Puducherry and

Chart 3: Rate of Rape Across States and UTs for 2011 and 2017.

Data source: Crime in India, 2011 Statistics and 2017



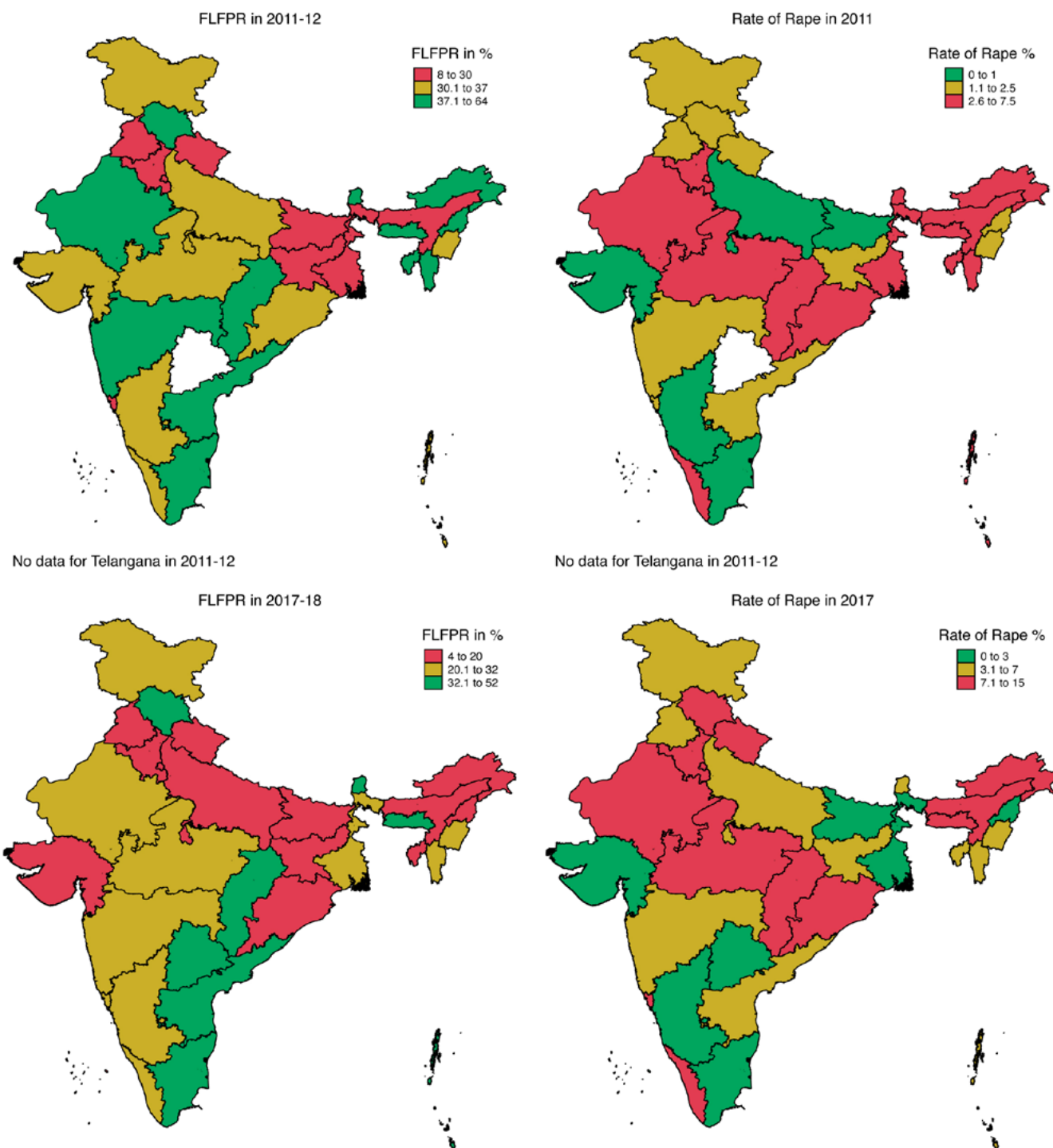
Nagaland (0.9 per cent) reported the lowest rates. It was high in the states of Madhya Pradesh (14.7 per cent), Chhattisgarh (14.6 per cent), Delhi (12.5 per cent), Assam (11 per cent) and Kerala (10.9 per cent) in 2017. Interestingly, while Lakshadweep reported a 0 per cent rate of rape incidents in 2011 as well as 2017, it significantly worsened in the states of Chhattisgarh, Madhya Pradesh and Delhi. In Mizoram and Tripura, the rate lowered by as much as 2.3 and 0.6 percentage points, respectively, in 2017 both these states had ranked poorly in 2011.

Heat maps showing how states and UTs fared in terms of FLFPR and rate of rape in 2011 and 2017 are shown in Figure 4. The case of Assam for both years, and for Delhi in 2017, suggests that since they have high rates of rape, they also have low FLFPRs. Conversely, data from Bihar raises the hypothesis that a low FLFPR is indicative of a low rate of rape since not many women stepped out of their homes to participate in the workforce. This holds true in 2011 and 2017 for the state. While Meghalaya and Mizoram (for 2011) and Chhattisgarh (in 2011 and 2017) reported high FLFPR, these states also reported the highest rates of rape, suggesting that these states reported higher incidences of crime because they had a higher FLFPR wherein more women became 'visible' outside their home. There is also the case of Tamil Nadu and D&N Haveli which in 2017 demonstrated that having a low rate of rape supported high FLFPR.

In sum, the hypotheses for the association between the incidence of rape and FLFPR could be interpreted either way. On the one hand, while a high incidence of rape may create a perception of lack of safety, thereby dissuading women to step out and work (as may be the case with Assam, Bihar or Delhi), in states where they do actually step out more, the incidence of rape is also high because more women interact with public spaces. This may hold true for Meghalaya, Mizoram, Chhattisgarh and Madhya Pradesh. But what is imperative to underline is that perceptions matter. Perceptions not just around the incidence of rape, but that of safety or resolution through better governance. That might explain why Tamil Nadu or D&N Haveli, a low rate of rape supports a high FLFPR. Women step out and work more, but also know that they will be protected. It is this perception of safety that acts like a self-fulfilling prophecy because of stronger governance, perhaps.

Figure 4: FLFPR and Rate of Rape for 2011 (top) and 2017 (bottom).

Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB

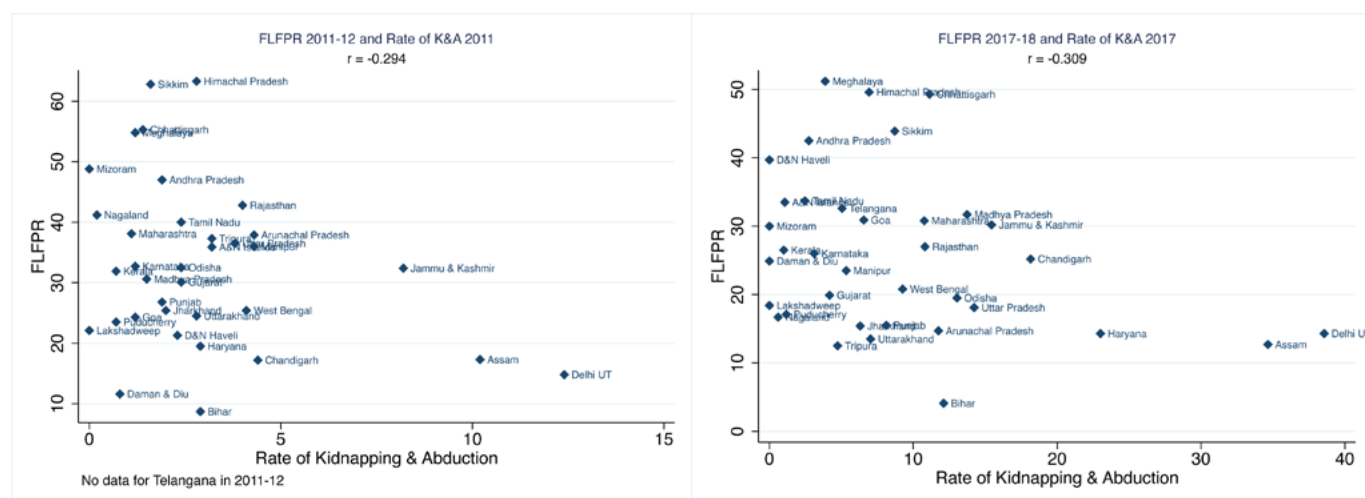


4.3 Kidnapping and Abduction

Kidnapping and abduction (K&A) account for the second largest share of crimes against women and girls. As of 2017, K&A accounted for 18.4 per cent of all CaW&G, and as many as 33.6 per cent of CaB2W. The rate of K&A incidences increased by almost 3.5 times within six years from 2.9 per cent in 2011 to 10.69 per cent in 2017. Therefore, K&A can now be considered as a significant barrier, even greater than the overall crime rate,

to women's participation in the labour force. The correlation coefficient between rate of K&A and FLFPR suggests that the relationship between the two variables marginally strengthened for the said time period, such that it stood at -0.3 in 2017 (Figure 5). The weak negative correlation implies that as incidences of K&A increased, FLFPR decreased. The trend is indicative of the general perception of lack of safety of females, which in turn leads to norms around why women do not or prefer not to step out.

Figure 5: FLFPR and Rate of K&A Correlations, 2011 and 2017.
Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB



A state-level analysis suggests that Delhi and Assam have had an exceptionally high rate of K&A incidences (Chart 4). The rate of K&A in Delhi increased from 12.4 per cent in 2011 to 38.5 per cent in 2017, the worst in India for both the years. Similarly, Assam saw a 24 percentage point rise in the K&A rate, rising from 10.2 per cent (2011) to 34.6 per cent (2017), ranking next to Delhi. Both Delhi and Assam also had the highest increase in rates of K&A, followed by Haryana, whose reported rate of K&A went up from 2.9 per cent in 2011 to 23 per cent in 2017. Chandigarh (18.1 per cent) and Jammu & Kashmir (15.4 per cent) also had high rates of K&A in 2017. Mizoram (0 per cent for both years), Nagaland and Kerala consistently had the lowest rates of K&A in India.

As suggested above, a high rate of K&A in Assam and Delhi was associated with a low FLFPR in 2011 as well as 2017 (Figure 6). Similarly, Mizoram (for both years) and D&N Haveli in 2017 had a low rate of K&A and a high FLFPR. These evidences strengthen the argument that K&A plays a role in influencing women's willingness and ability to step out to work. While the converse was also observed for Lakshadweep and Puducherry in 2011, where despite having a low K&A rate, the FLFPR was also low, the relationship largely holds ground.

4.4 Sexual harassment

Harassment is the most widespread form of sexual victimisation, and especially most common in workplaces. Globally, surveys of working women suggest that half of the women will be

Chart 4: Rate of K&A Across States and UTs for 2011 and 2017.

Data source: Crime in India, 2011 Statistics and 2017 Statistics, NCRB

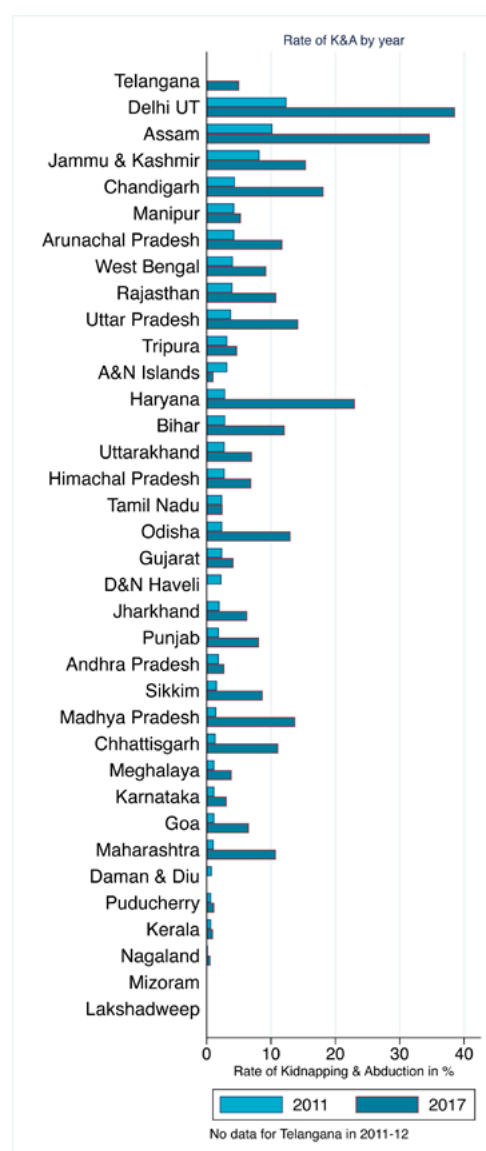
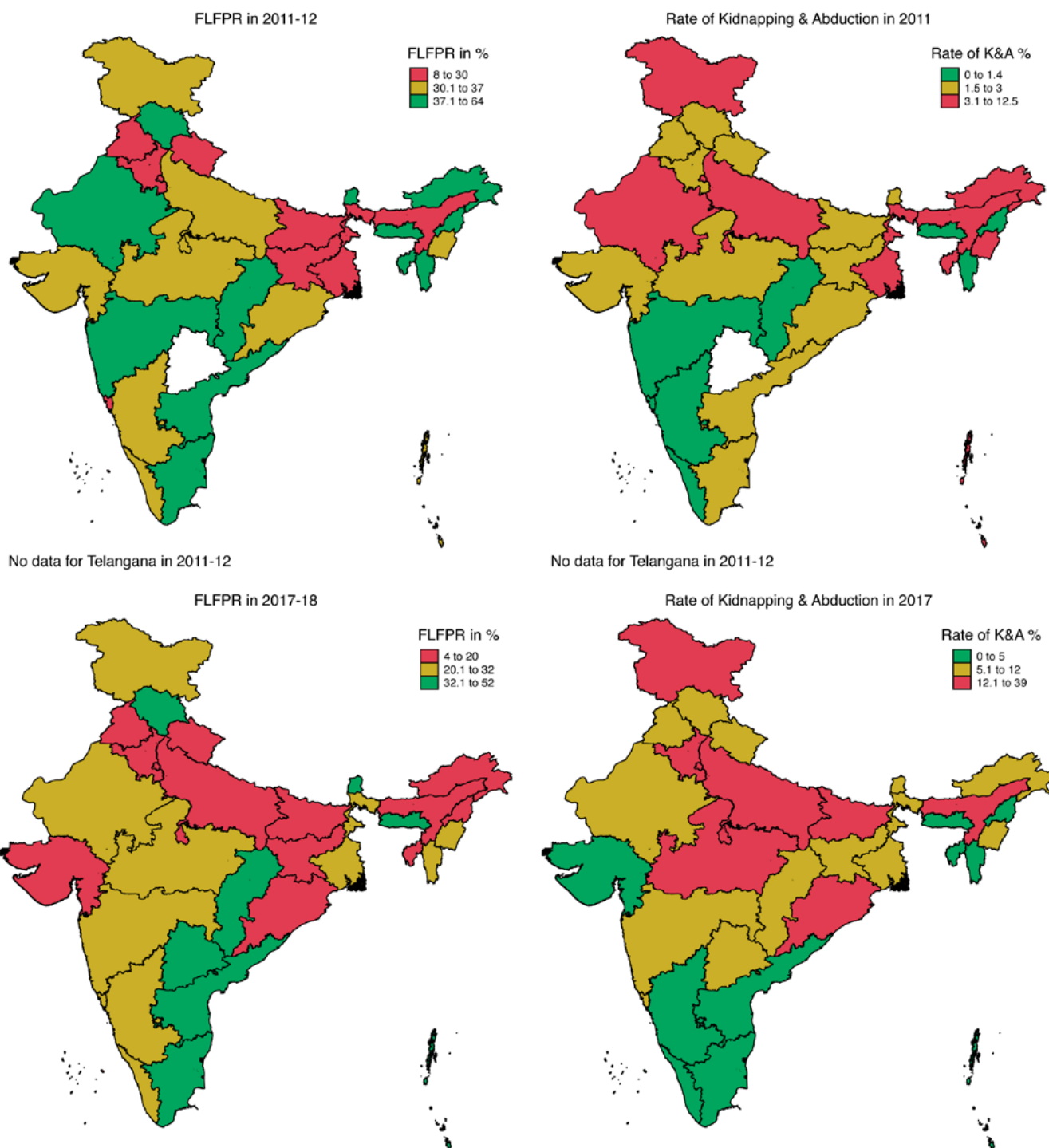


Figure 6: FLFPR and Rate of K&A for 2011 (top) and 2017 (bottom).

Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB



harassed at some or the other point during their academic or work lives (Fitzgerald, 1993). In addition to being physically violent, harassment is degrading and frightening for victims, and can have long-term psychological consequences that hamper their day-to-day lives. Women are particularly at high risk for garnering intrusive, unwanted and coercive sexual attention from men when using public transportation for travel to work (Solotaroff and Pande, 2014). Thus, avoiding this exposure altogether, by dropping out of the

labour force, becomes the most feasible situation for women to escape the unwarranted situation.

An upcoming study by Sharma (2021) which looks at the causal impact of sexual harassment awareness on women's hypothetical and real labour market outcomes suggests that the perception of a high rate of sexual harassment can have the effect of women tending to avoid events or places to avoid men altogether, to the extent that they would be less likely to choose

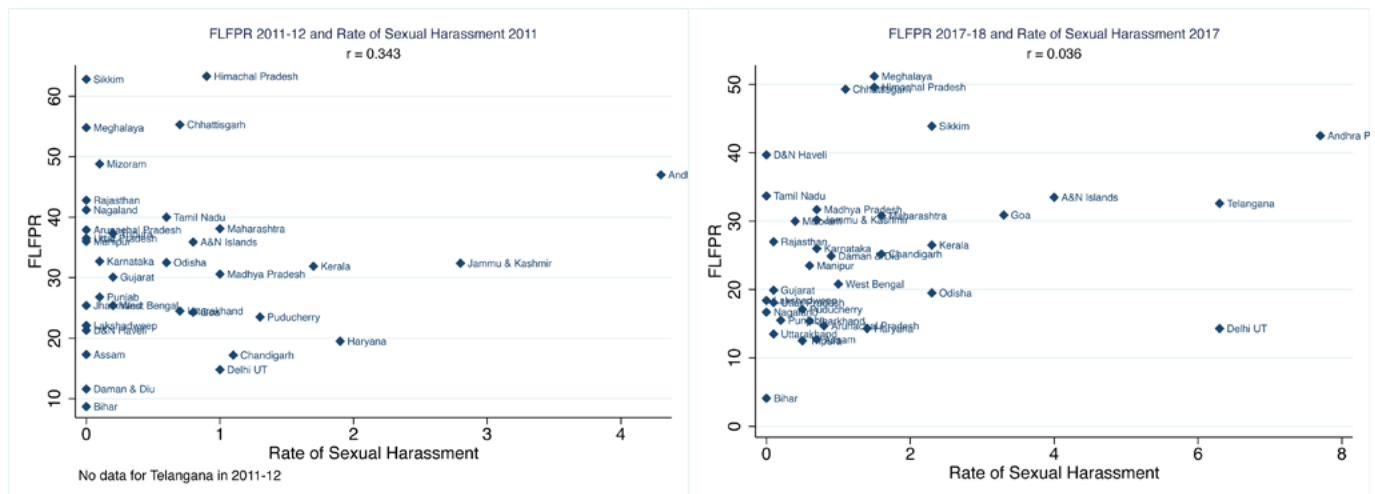
jobs where engagement with men is high or that are considered 'unfriendly for women'. Sharma refers to this as the caution or avoidance approach (2021).

In India, the share of cases of sexual harassment (also referred to as eve-teasing or insult to the modesty of women) decreased from 3.75% (2011) to 2.07 per cent (2017) of all crime incidences. In terms of CaB2W alone, sexual harassment came down by half during this time (7.7 per cent in 2011 to 3.78 per cent in 2017). However, the rate of sexual harassment almost doubled from 0.7 per cent to 1.2 per cent (Table 3). At an all-India level, the correlation between the rate of sexual harassment and FLFPR has moved from a moderately positive association ($r = 0.343$) in 2011 to almost a negligible association in 2017 (Figure 7). The decrease in the coefficient suggests that perhaps this relationship is moving towards a negative correlation over time. Once again, as specified in section 3.2, it must be kept in mind that several incidents of sexual harassment go unreported either due to a lack of understanding by the victim or due to the fear of shame, hence leading to the correlation coefficient not being as expected.

there is a large evidence of incidents of sexual harassment in the workplace and in society in general. However, a plausible reason for why NCRB record and report very few such cases could be due to the vague or abstract definition of the crime, and the uncertainty or lack of understanding of what qualifies as sexual harassment for women to report or file an FIR, which is considered a serious step for women with ramifications for her reputation, modesty and virtue. As of 2011, Andhra Pradesh (4.3 per cent), Jammu & Kashmir (2.8 per cent), Haryana (1.9 per cent) and Kerala (1.7 per cent) reported a high rate of sexual harassment. However, this high reporting could be attributed to more awareness or better reporting systems in these states.

In 2017, Bihar, D&N Haveli, Lakshadweep, Nagaland and Tamil Nadu continued to have a 0 per cent rate of sexual harassment (Chart 5). However, the rate of sexual harassment more than doubled in Andhra Pradesh (7.7 per cent) between 2011 and 2017. Telangana (6.3 per cent) also reported a high rate of sexual harassment, while Delhi and Andhra Pradesh saw the largest increase in the rate of sexual harassment during this time, with Delhi's rate rising by 5.3

Figure 7: FLFPR and Rate of Sexual Harassment Correlations, 2011 and 2017.
Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB



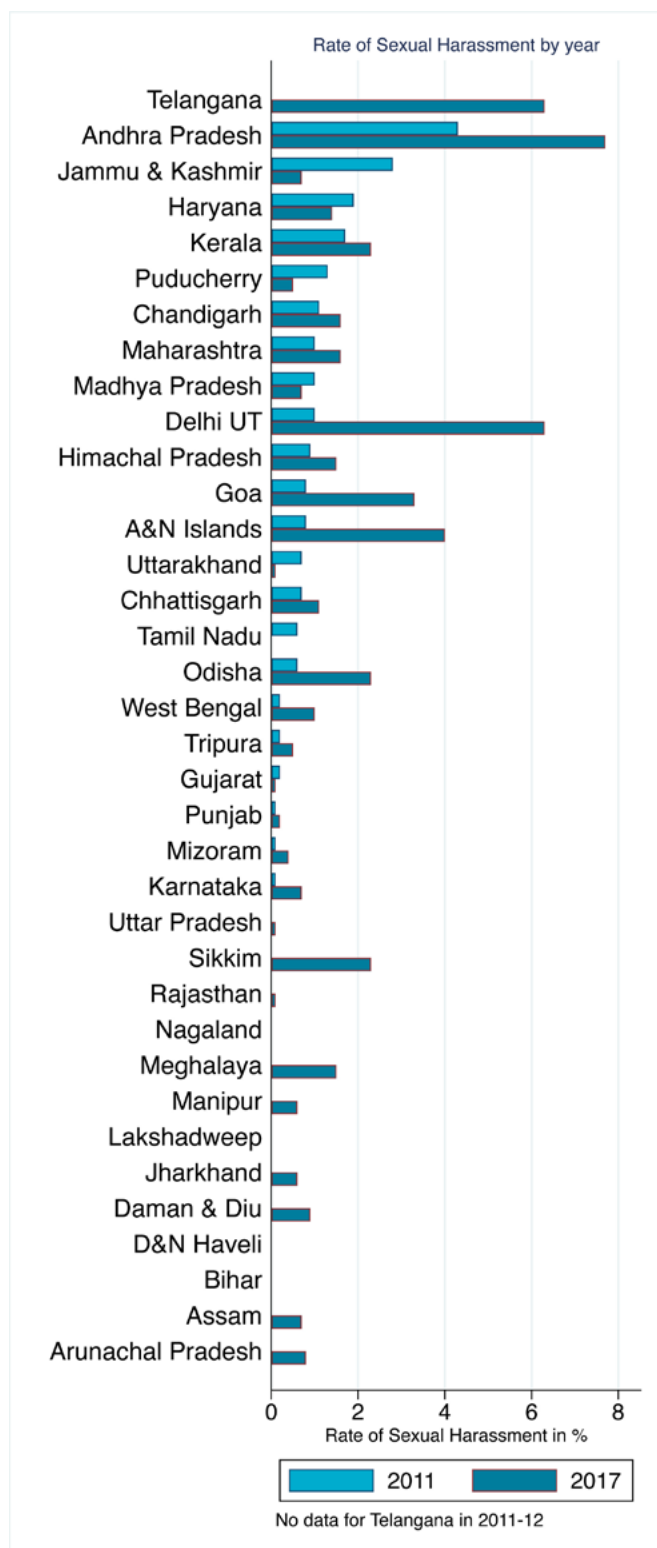
As shown in Chart 5, as many as 13 states/UTs reported a 0 per cent rate of sexual harassment in 2011. These include Arunachal Pradesh, Assam, Bihar, D&N Haveli, Daman & Diu, Jharkhand, Lakshadweep, Manipur, Meghalaya, Nagaland, Rajasthan, Sikkim and Uttar Pradesh (Chart 5). Karnataka, Mizoram and Punjab reported a 0.1 per cent rate of sexual harassment. Anecdotaly,

percentage points. In contrast, Jammu & Kashmir, Puducherry, Tamil Nadu, Uttarakhand, Haryana, Madhya Pradesh and Gujarat reported a decline in the rates of sexual harassment.

A very low and positive correlation coefficient for rate of sexual harassment and FLFPR in Haryana, Chandigarh and Puducherry for 2011 and in Delhi in 2017 suggests that FLFPR is low in states/

Chart 5: Rate of Sexual Harassment Across States and UTs for 2011 and 2017.

Data source: Crime in India, 2011 Statistics and 2017 Statistics, NCRB



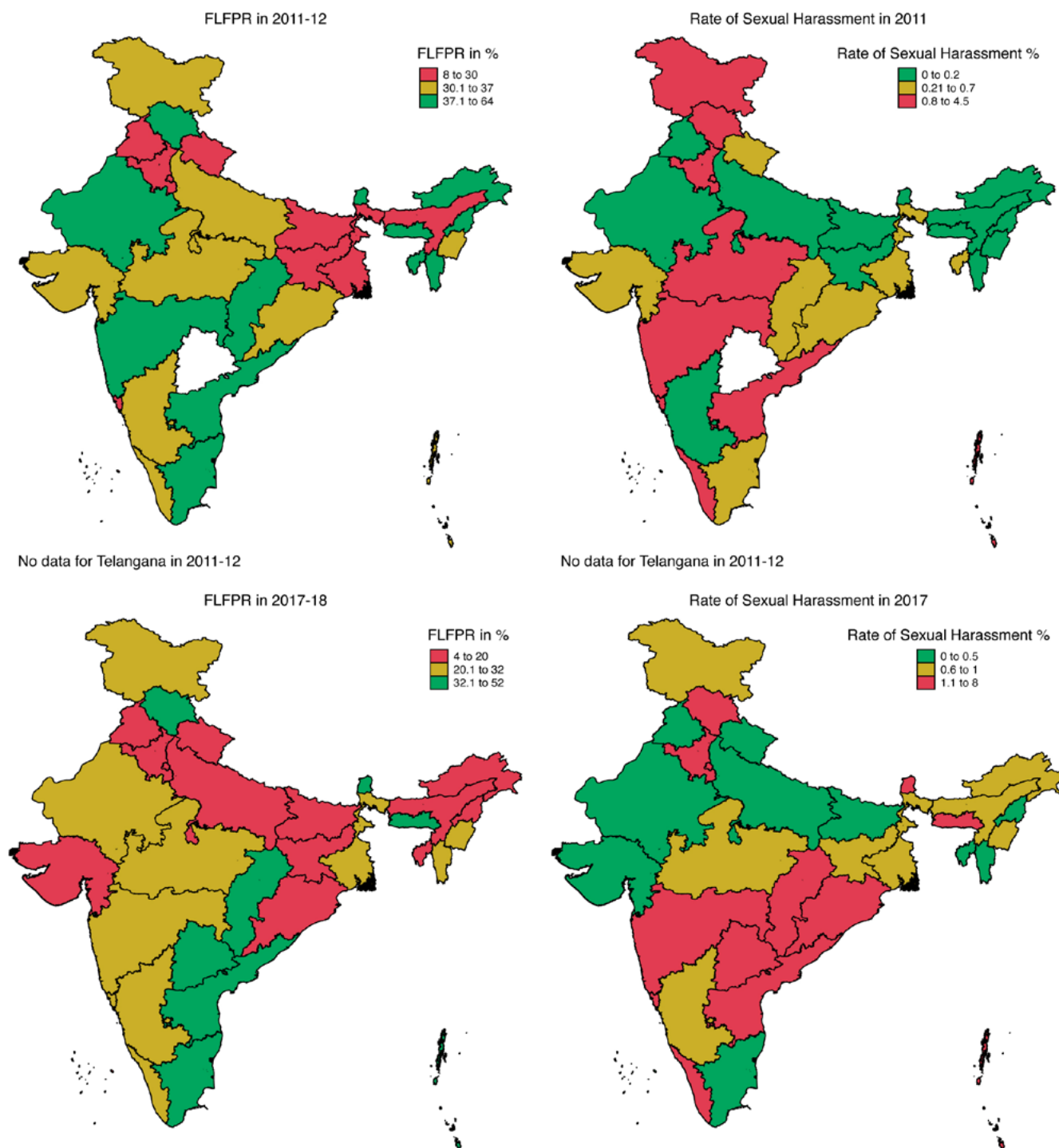
UTs where the rate of sexual harassment is high (Figure 8). Conversely, Sikkim and Mizoram (in 2011) and D&N Haveli and Tamil Nadu (in 2017) reported a low rate of sexual harassment and a high rate of FLFPR. For the both the years observed, Bihar was the only state that reported

low rates of sexual harassment as well as FLFPR, while Andhra Pradesh was the only state where the rate of sexual harassment and FLFPR were observed to be high. As indicated above, this could be because in Andhra Pradesh, women are more aware of what constitutes sexual harassment and therefore tend to report them, unlike Bihar where reporting may be significantly low because of lack of awareness, poor systems to report, fear of compromising the victim's virtue and modesty, or a combination of all these factors.



Figure 8: FLFPR and Rate of Sexual Harassment for 2011 (top) and 2017 (bottom).

Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB



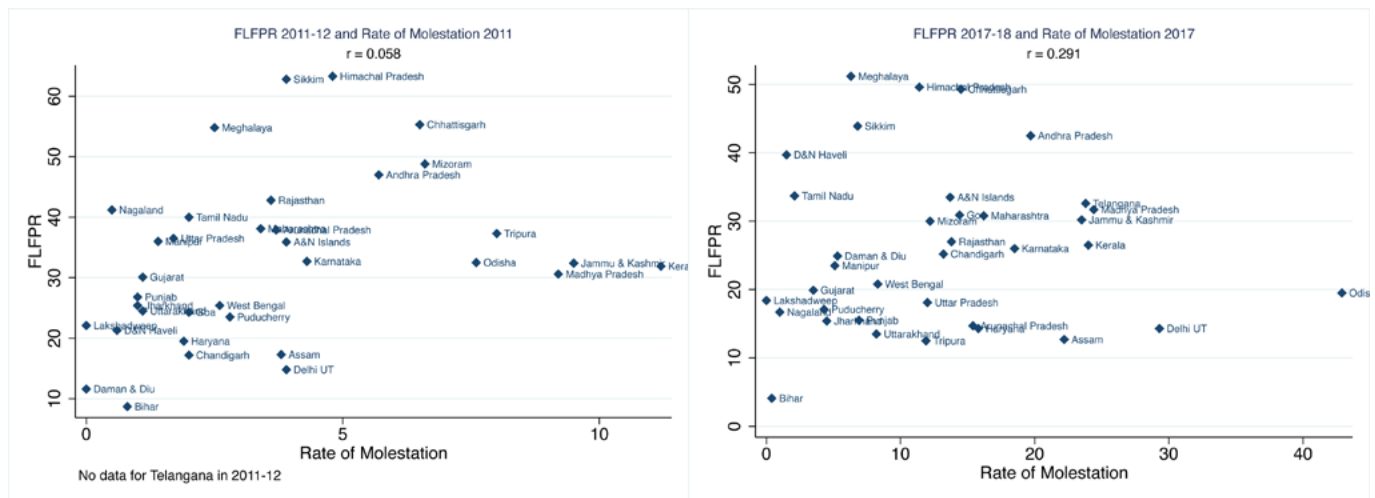
4.5 Molestation

Molestation (or assault on women with the intent to outrage her modesty) makes up for the second largest share of all crime incidences against women and girls, next only to cruelty by husband and relatives, as well as CaB2W. The all-India rate of molestation almost quadrupled between 2011 and 2017, going from 3.6 per cent to 13.8 per cent (Table 3). Column 3 in Table 1 shows that

molestation accounted for 18.7 per cent (2011) of crimes against women, which increased to 23.9 per cent in 2017 (Table 2). Similarly, considering CaB2W alone, molestation accounted for a majority of crimes—38.6 per cent in 2011 and 43.5 per cent in 2017.

In this background, it could be hypothesised that since molestation incidents are prevalent, they would also be strong discouraging factors for women to step out to work. Thus, a negative

Figure 9: FLFPR and Rate of Molestation Correlations, 2011 and 2017.
Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB

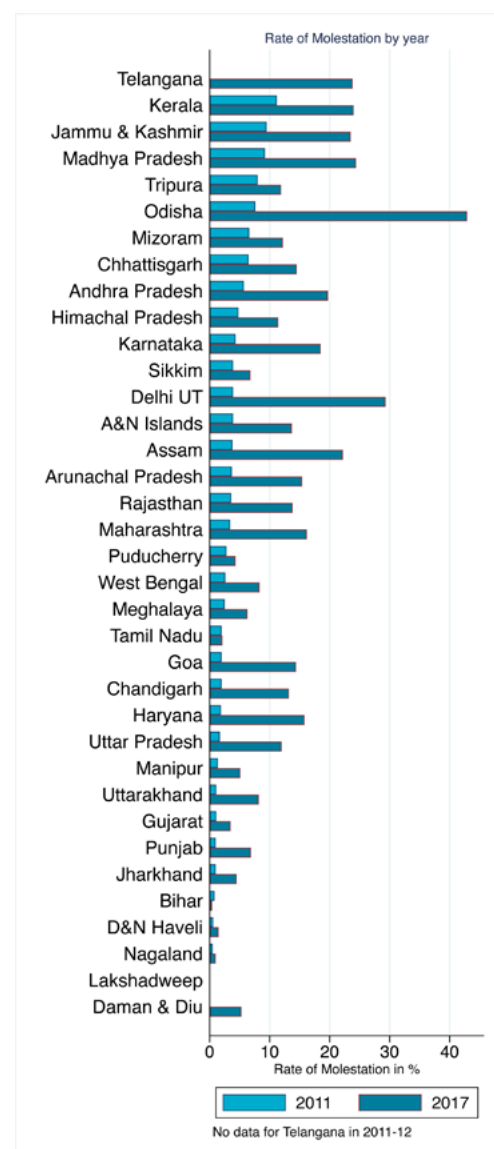


association is expected between the rate of molestation and FLFPR. However, at the all-India level, there is a negligible ($r = 0.058$ in 2011) correlation between the rate of molestation and FLFPR (Figure 9). By 2017, the observed relationship was positive but weak. Theoretically, a negative association is expected between molestation and women's workforce participation because a higher number of incidences of molestation would discourage women to participate in the labour force. The fact that a positive relationship is observed suggests that cases of molestation are perhaps harder to report given the abstract concept of what act comprises of molestation. Further, the subjective interpretation of what an act of molestation is, makes it hard to establish the crime and file a complaint.

In 2011, Kerala (11.2 per cent), Jammu & Kashmir (9.5 per cent) and Madhya Pradesh (9.2 per cent) had the highest rate of molestation in India (Chart 6). While smaller states/UTs like Lakshadweep and Daman & Diu (both 0 per cent), Nagaland (0.5 per cent) and D&N Haveli (0.6 per cent) had among the lowest rates in India, even large states like Bihar (0.8 per cent) and Punjab (1 per cent) reported low rates of molestation. In fact, in 2017, Bihar (0.4 per cent) was the only state/UT in India that reported a decline in the rate of molestation, while Lakshadweep (0 per cent), Nagaland (0.5 per cent) and D&N Haveli (1.5 per cent) continued to have the lowest rates in India. However, in a drastic rise in molestation incidences, Odisha (42.9 per cent) and Delhi (29.3 per cent) both reported a significantly high rate of molestation in 2017, while also having the highest

Chart 6: Rate of Molestation across states and UTs for 2011 and 2017.

Data source: Crime in India, 2011 Statistics and 2017 Statistics, NCRB



rate across India. Madhya Pradesh (24.4 per cent), Kerala (24 per cent) and Jammu & Kashmir (23.5 per cent) also continued to report high rates of molestation in 2017.

Bihar was the only state in India with a low rate of molestation as well as low FLFPR in both 2011 and 2017 (Figure 10). While small UTs like Lakshadweep, D&N Haveli and Daman & Diu also reported low molestation rates and low FLFPR, both Chhattisgarh and Mizoram showed high

rates and a high FLFPR in 2011. By 2017, the only state/UT with a high rate of molestation and a low FLFPR was Delhi. In line with this, Tamil Nadu and D&N Haveli had a high FLFPR with lower rates of molestation.

4.6 Attempt to rape

In contrast with the crime data for 2011, the definitions, nature and types of crimes reported by the NCRB in 2017 have been far more

Figure 10: FLFPR and Rate of Molestation for 2011 (top) and 2017 (bottom).

Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB

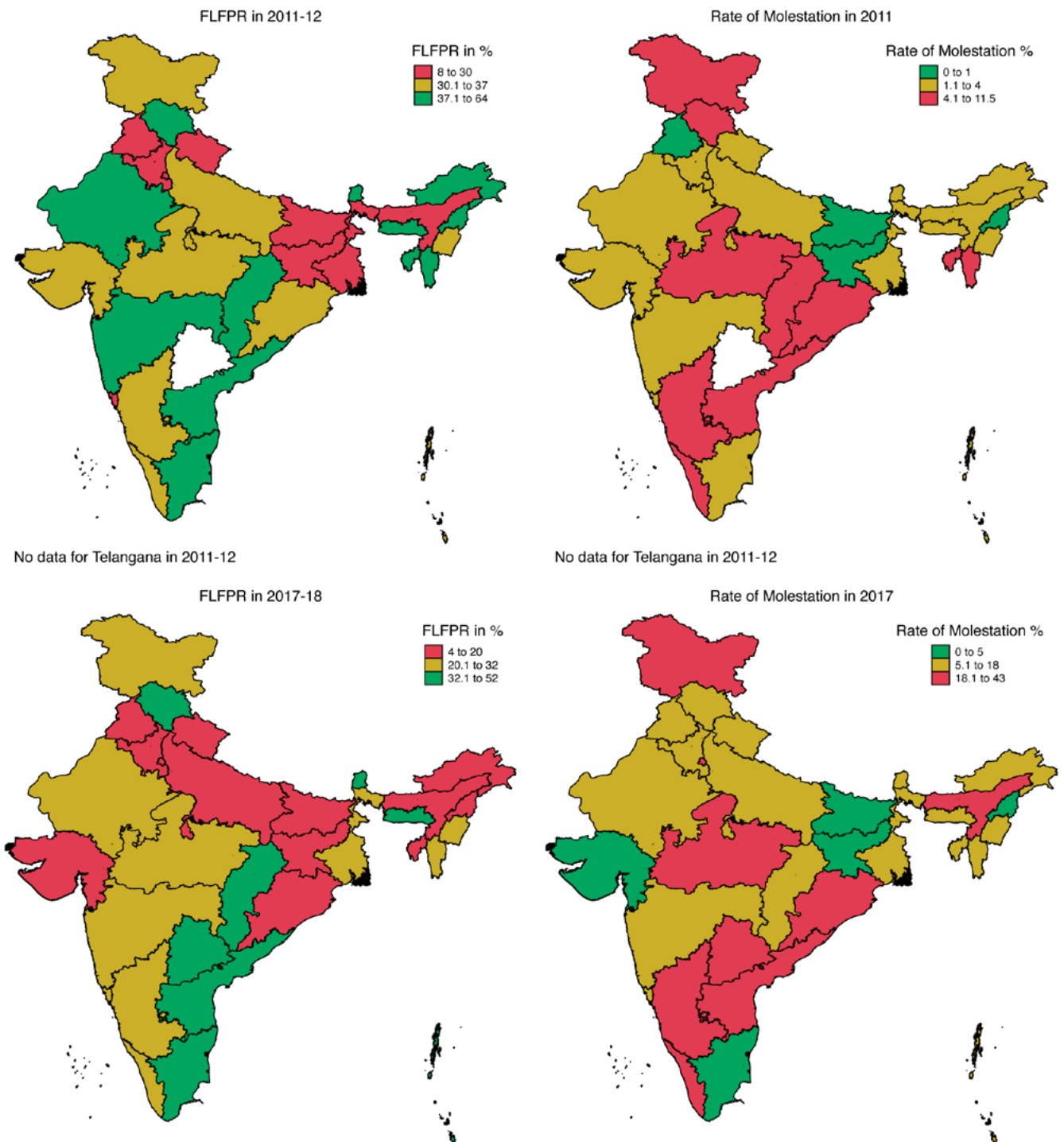
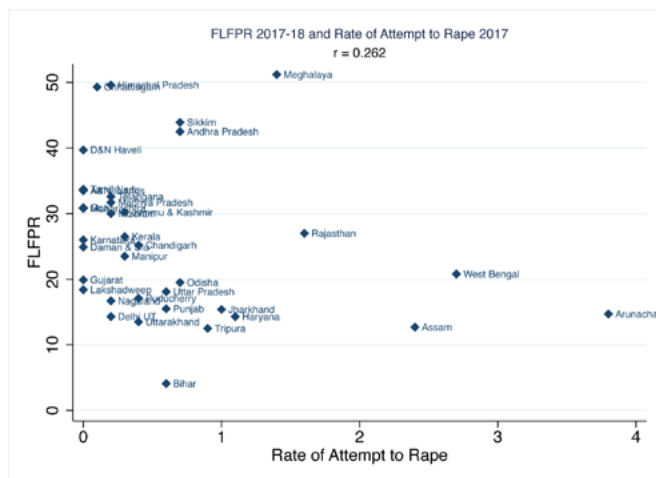


Figure 11: FLFPR and Rate of Attempt to Rape Correlations, 2017.

Data source: PLFS 2017-18, and Crime in India, 2017 Statistics, NCRB

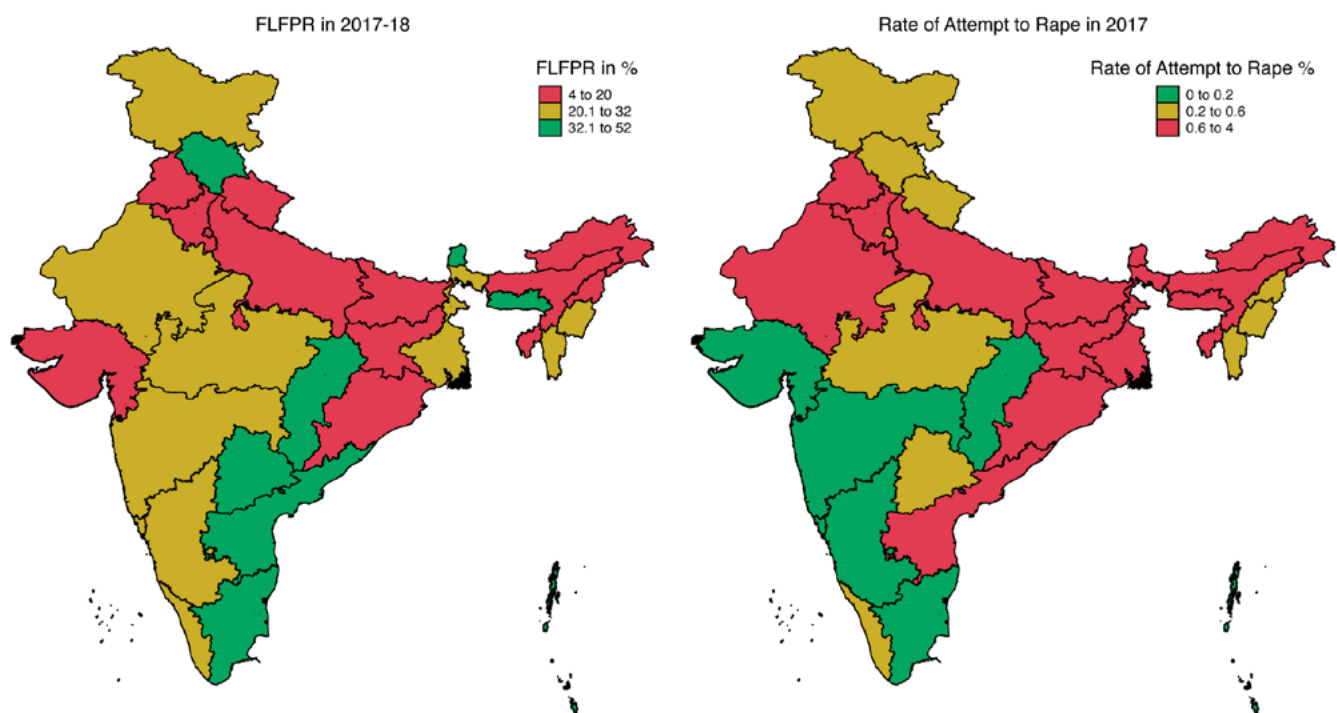


0.7 per cent (Table 3). These numbers, although extremely relevant and indicative of the general lack of safety and security of women in society, could be low due to the abstract concept of what is identified as an 'attempt' to rape versus actual incidents of rape and molestation, or perhaps, even lack of awareness that attempt to rape too is a punishable crime. In line with the hypothesis, there is a negative but weak correlation observed between the rate of attempt to rape and FLFPR (Figure 11). However, since rape is underreported, it becomes hard to assess and determine what this correlation implies.

Lakshadweep, D&N Haveli, Tamil Nadu, Gujarat, Daman & Diu, A&N Islands, Goa, Maharashtra, Karnataka reported the lowest (0 per cent) rate of attempt to rape in 2017, (Figure 12), followed by

Figure 12: FLFPR and Rate of Attempt to Rape for 2017.

Data source: PLFS 2017-18, and Crime in India, 2017 Statistics, NCRB



sophisticated. They include 'new age crimes' that are described in section 2.2.2 of the NCRB report. Three of them—attempt to rape, acid attack and cybercrimes (women-centric under the IT Act) — can be identified as CaB2W. However, there is no comparative data available for these crimes for 2011.

In 2017, attempt to rape accounted for a meagre 1.15 per cent of all CaW&G and 2.1 per cent of CaB2W. The all-India rate of attempt to rape was

Chhattisgarh (0.1 per cent) and Himachal Pradesh (0.2 per cent). Expectantly, Himachal Pradesh, Chhattisgarh, D&N Haveli, Tamil Nadu also had among the highest FLFPR. Arunachal Pradesh (3.8 per cent), West Bengal (2.7 per cent), Assam (2.4 per cent) and Rajasthan (1.6 per cent) had among the highest rates of attempt to rate across India. Of these, Assam and Arunachal Pradesh had relatively lower FLFPRs.

4.7 Acid attack

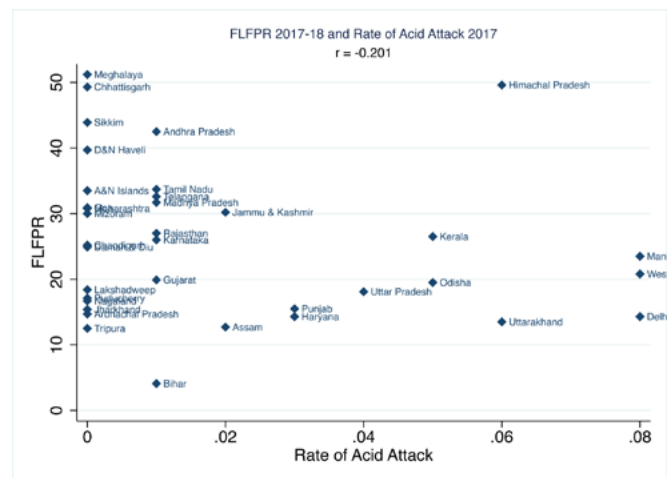
Acid violence against women and girls is rampant in both rural and urban India. However, since NCRB started publishing data on acid attacks on females very recently, there is unfortunately no data to make a comparison against 2011. Consistent with the backlash hypothesis, acid is hurled on to the faces of young girls and women for transgressing the traditional gender roles that put them in subordinate positions (Solotaroff and Pande, 2014). Weak legislation, low conviction rates of perpetrators and the unregulated sale of acid has made it difficult to combat acid violence even though it has devastating, extreme and lifelong consequences (Solotaroff and Pande, 2014).

Acid attacks accounted for only 0.04 per cent of all CaW&G and 0.08 per cent (the lowest) of crimes that prevent women and girls from participating in the economy (Table 2). The recorded rate of acid attacks at the all-India level in 2017 was 0.02 per cent (Table 3). A correlation coefficient of -0.201 was observed between the rate of acid attack and FLFPR (Figure 13). Although a weak association, the negative sign suggests that with a high rate of acid attack, the FLFPR would be low and vice-versa.

As many as 16 states/UTs reported a 0 per cent acid attack rate in 2017. These include the six

Figure 13: FLFPR and Rate of Acid Attack Correlations, 2017.

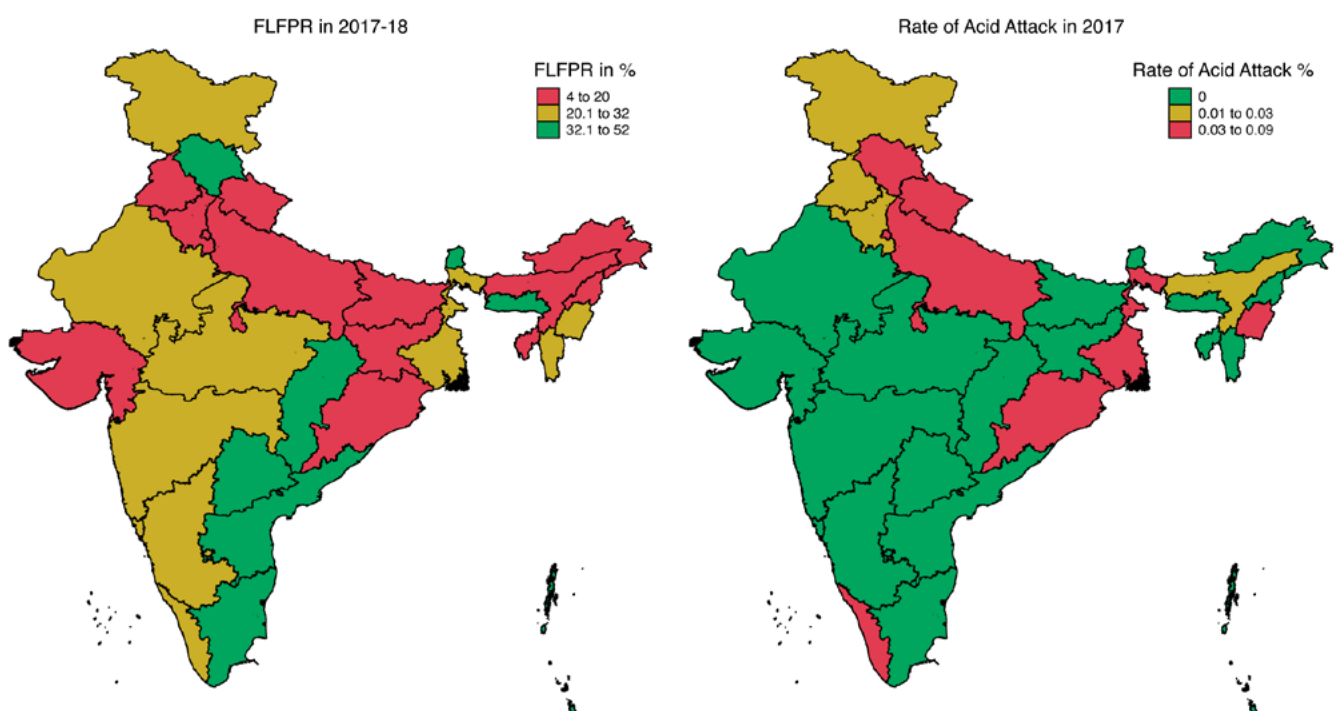
Data source: PLFS 2017-18, and Crime in India, 2017 Statistics, NCRB



UTs except Delhi (A&N Islands, Chandigarh, D&N Haveli, Daman & Diu, Lakshadweep and Puducherry), and Goa, Chhattisgarh, Nagaland, Mizoram, Sikkim, Tripura, Jharkhand, Meghalaya, Arunachal Pradesh and Maharashtra (Figure 14). In fact, Delhi along with Manipur and West Bengal had the highest rate of acid attacks across India at 0.08 per cent, followed by Himachal Pradesh and Uttarakhand (0.06 per cent). States like Meghalaya, Chhattisgarh, Sikkim, Andhra Pradesh, D&N Haveli and Tamil Nadu that

Figure 14: FLFPR and Rate of Acid Attack for 2017.

Data source: PLFS 2017-18, and Crime in India, 2017 Statistics, NCRB



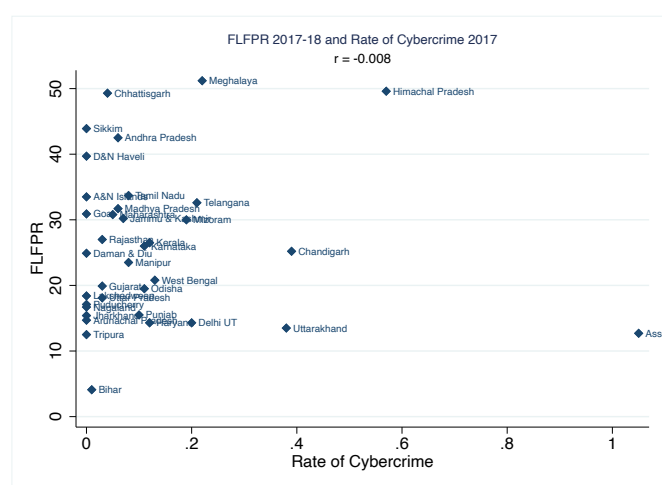
reported lower rates for the crime also had high FLFPRs compared to the rest of the country. However, Delhi and Uttarakhand fared poorly in terms of the rate of acid attack as well as the FLFPR.

4.8 Cybercrimes

Women-centric cybercrimes (as under the IT Act) made up for 0.17 per cent of CaW&G in 2017 and almost 0.3 per cent of CaB2W for women (Table 2). The rate of cybercrimes at the all-India level

Figure 15: FLFPR and Rate of Cybercrime Correlations, 2017.

Data source: PLFS 2017-18, and Crime in India, 2017 Statistics, NCRB



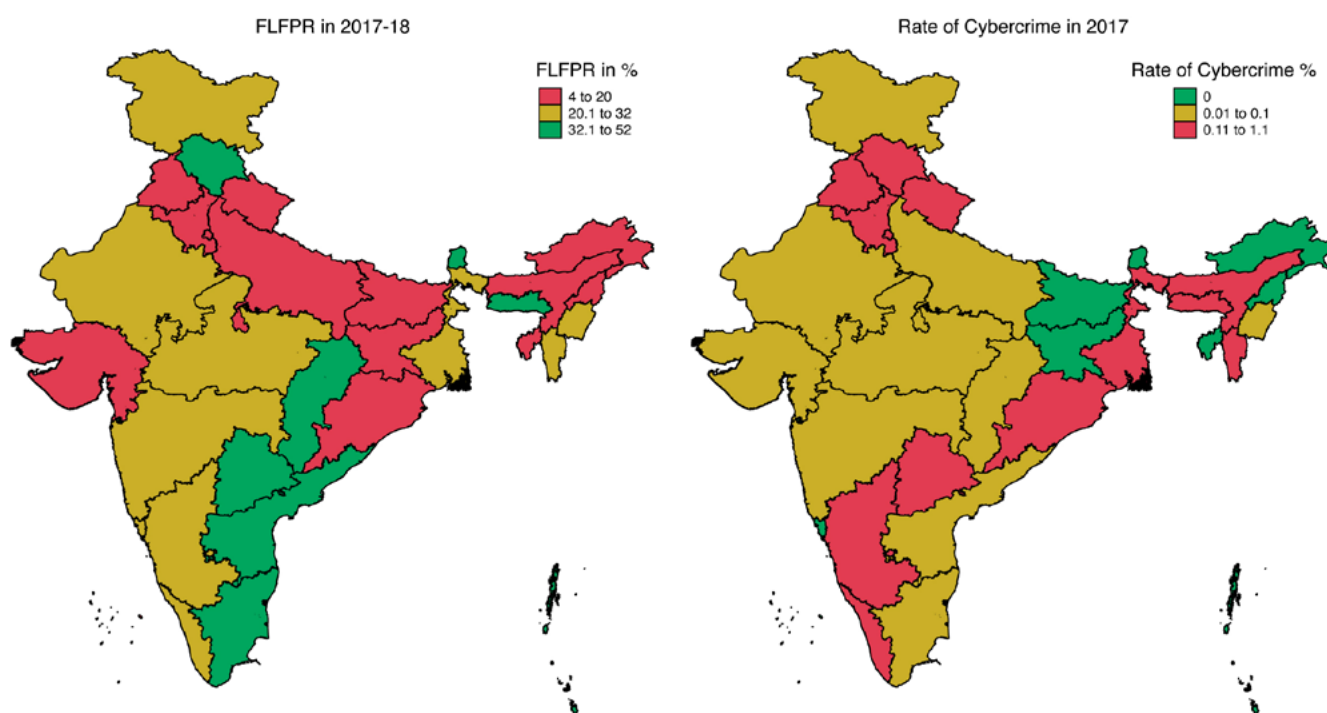
in the same year was 0.1 per cent. A correlation coefficient of -0.008 suggests a negligible relationship between the rate of cybercrime in a state/UT and its FLFPR (Figure 15).

As a 'new age crime' the nature of cybercrime is such that it requires not only an understanding of its nuances by the person on whom it is inflicted, but also awareness generation among women and girls who are exposed to cyber or digital spaces. Just like the establishment of violence in these spaces is unique, so is its recourse and redressal. Thus, the identification and reporting of cybercrime is bound to be tedious. As a result, incidents of crime remain underreported and it appears as a relatively low barrier to work. However, anecdotal evidence suggests that manifestation of cybercrime is actually much higher. At a time when the world is adopting a remote work culture and workspaces are being digitised rapidly, a high rate of cybercrime can well be a deterrent to FLFP.

Although Assam (1.05 per cent), Chandigarh (0.39 per cent) and Uttarakhand (0.38 per cent) reported high rates of cybercrime, they had relatively lower FLFPRs compared to other states and UTs (Figure 16). Himachal Pradesh (0.57 per cent) and Meghalaya (0.22 per cent) showed a very high cybercrime rate as well as high FLFPR in 2017. States like Tripura, Arunachal Pradesh, Jharkhand and Nagaland that had a 0 per cent

Figure 16: FLFPR and rate of cyber crime for 2017.

Data source: PLFS 2017-18, and Crime in India, 2017 Statistics, NCRB



cybercrime rate recorded FLFPRs between 12 to 16 per cent. At the same time, Goa and Sikkim, which had a 0 per cent cybercrime rate, had high FLFPRs of 30.9 per cent and 43.9 per cent, respectively.

4.9 Trends in states with high and low FLFPRs

A closer look at states that had the lowest FLFPRs during 2011-12 and 2017-18 in India—Bihar, Delhi, Assam and Tripura (Table 5)—strengthens the argument that crime rate is indeed strongly associated with women's participation in the workforce. Bihar had the lowest FLFPR across in India for both the years as its FLFPR fell from 8.7 per cent to 4.1 per cent. Its overall crime rate for CaW&G approximately tripled during this time. When the rate for K&A incidents sharply increased from 2.9 per cent to 12.11 per cent, the rate of rape of increased to 1.2 per cent. The state which experienced the maximum fall in in FLFPR between 2011-12 and 2017-18 was Tripura, with women's workforce participation rate falling by over 24 percentage points to 12.5 per cent (2017-18). In 2017, it had a crime rate as high as 51.2 per cent.

Overall, Delhi and Assam revealed a grim picture in terms of FLFPR as well as crime rates. In the time period observed, the FLFPR for Delhi declined only marginally from 14.8 per cent to 14.3 per cent. However, its overall crime rate rose by more than four times from 31.25 per cent to 133.3 per cent. CaW&G identified as CaB2W also increased significantly during this time. The rates for both K&A and molestation surged by over 26 percentage points, from 12.4 per cent to 38.56 per cent and from 3.9 per cent to 29.3 per cent,

respectively. The rates of rape also increased from 3.4 per cent to 12.5 per cent and that of sexual harassment went from a meagre 1 per cent to 6.3 per cent between 2011 and 2017. In the case of Assam, while the FLFPR declined by 5 percentage points, its overall crime rate for CaW&G quadrupled. The rates of K&A and molestation stood high at 34.65 per cent and 22.2 per cent, respectively, the rate of rape almost doubled between 2011 and 2017, and the rate of sexual harassment saw a slight rise from 0 per cent to 0.07 per cent.

However, this trend was not observed for states (Chhattisgarh, Sikkim, Himachal Pradesh and Meghalaya) that had high FLFPRs in India in the years 2011-12 and 2017-18 (Table 5). In 2011, while Chhattisgarh (16.52 per cent) and Himachal Pradesh (14.53 per cent) both had moderate rates of overall crimes against women and girls, the rates went up significantly by 2017, rising to 61.1 per cent in Chhattisgarh, and more than doubled in Himachal Pradesh at 35.7 per cent. Similar significant increases in the crime rate were observed for Sikkim and Meghalaya. The sharp rise in crime rates in all these cases is consistent with the trend observed in other states/UTs as well as all-India.

While Meghalaya, Himachal Pradesh and Sikkim fell in the medium range in terms of the rate of rape in the years 2011 and 2017, Chhattisgarh fared poorly with a rape rate of 14.6 per cent, the second highest in India, only next to Madhya Pradesh. Although rates of K&A and molestation, also both crimes that account for the highest share of CaB2W, increased for all these four states in 2011 and 2017, they remained in the moderate range at the all-India level. Chhattisgarh and

Table 5: States with the Highest and Lowest FLFPRs (6 UTs, except Delhi, excluded).

Data source: EUS 2011-12, PLFS 2017-18, and Crime in India, 2011 Statistics and 2017 Statistics, NCRB

2011-12		2017-18	
State	FLFPR	State	FLFPR
Lowest FLFPR			
Bihar	8.7	Bihar	4.1
Delhi	14.8	Tripura	12.5
Assam	17.3	Assam	12.7
Highest FLFPR			
Chhattisgarh	55.3	Chhattisgarh	49.3
Sikkim	62.8	Himachal Pradesh	49.6
Himachal Pradesh	63.3	Meghalaya	51.2

Sikkim showed high increases in the K&A rate, with the rate for Chhattisgarh rising almost 8 times, and that for Sikkim rising from 1.6 per cent to 8.7 per cent. The K&A rate for Meghalaya and Himachal Pradesh more than doubled. The rate of molestation in Meghalaya, Himachal Pradesh, Sikkim and Chhattisgarh nearly doubled too.

Both Sikkim and Meghalaya recorded a sexual harassment rate of 0 per cent in 2011. However, consistent with the all-India picture, the rate increased to 2.3 per cent and 1.5 per cent in 2017, and were among the higher figures at the all-India level.



5 OTHER PREDOMINANT FACTORS THAT INFLUENCE CRIME RATE

A wide range of literature has established two key gender-oriented factors as reasons that can potentially lead to high crime rate among women and girls: (i) high consumption of alcohol among males (Di Tella et al., 2010, Ghosh et al., 2012, Dar and Sahay, 2018), and (ii) high male unemployment rate in the society (Cantor and Land, 1985, Caruso, 2015, and Srivastava, 2018). The extent to which these seem plausible in the Indian context in the year 2017 are briefly explored here.

Evidence suggests that strict alcohol control policies are associated with lower rates of crimes against women, but not against other crimes. However, little can be said about how Indian states are faring based on the enforcement of alcohol regulation because these state-level policies are still in a flux (Luca et al., 2019). States like Mizoram, Kerala, and Bihar have experimented with alcohol prohibition policies; but these bans have seldom been exogenous and rarely comprehensive to capture their actual and full effect. In many cases, the “implementation [of the prohibition policy] is limited to only certain geographic regions or some specific types of alcohol” (Dar and Sahay, 2018).

Around 2017, the following states imposed complete alcohol bans (their corresponding rate of CaW&G is indicated in parentheses): Mizoram (57.6 per cent), Tripura (51.2 per cent), Bihar (28.8 per cent), Gujarat (27 per cent), Lakshadweep (14 per cent) and Nagaland (6.9 per cent). While the crime rates in all these six states spans across a range, they all lie towards the lower end of the spectrum compared with the all-India rate of

CaW&G of 57.9 per cent. This holds especially true for Nagaland and Lakshadweep which have among the lowest rate of CaW&G in India.

In order to better understand how alcohol consumption is associated with CaW&G, the data captured in NFHS-5 (2019-20)⁸ (IIPS, 2020) for the indicator ‘percentage of men aged 15 years and above who consume alcohol’ for rural and urban regions put together, were studied. Since the NFHS-5 data has been published for only 23 states/UTs thus far, for the remaining 13 states/UTs, NFHS-4⁹ (2015-16) data was referred to for a close proxy (IIPS, 2017). These states/UTs have been identified in Table G in the Appendix. States with the highest level of consumption of alcohol among males are Arunachal Pradesh (59 per cent), Chhattisgarh (52.7 per cent), Tamil Nadu (46.7 per cent) and Telangana (43.3 per cent). In studying the corresponding data for the rate of CaW&G in these states, the crime rates vary significantly (at 53.4 per cent, 61.1 per cent, 15.5 per cent and 94.7 per cent, respectively), limiting the establishment of any clear pattern. A correlation coefficient of 0.0225 between the rate of CaW&G and percentage of men who consume alcohol confirms that the relationship between the two variables is almost negligible. However, some outliers must be mentioned. Incidentally, in two states which have a complete ban on alcohol, Lakshadweep and Gujarat, very few men report consuming alcohol—0.4 per cent and 5.8 per cent, respectively. The rate of CaW&G in both places is relatively low at 14 per cent and 27 per cent, respectively, when compared to the rest of the country. Similarly, in Bihar, while on the one hand 15.5 per cent men reported consuming alcohol despite an alcohol ban in place, on the other hand, its crime rate against women and girls is also comparatively lower (28.8 per cent) than that of other states. States which have very high crime rates: Assam (143.6 per cent), Delhi (133.6 per cent) and Haryana (88.7 per cent), report that about one in every four men consumes alcohol.

Another strand of research suggests that greater unemployment among males in a society is associated with a higher rate of crime against women. The theories and literature supporting this are detailed in section 2.3. A closer look at the data on male unemployment rate in India is taken using PLFS 2017-18. A state-level

⁸ See NFHS-5 State Factsheet Compendium, Phase 1 with Key Indicators at: http://rchiips.org/NFHS/NFHS-5_FCTS/NFHS-5%20State%20Factsheet%20Compendium_Phase-I.pdf

⁹ See NFHS-4 Fact Sheets for Key Indicators based on final data at: http://rchiips.org/nfhs/factsheet_NFHS-4.shtml

analysis suggests a correlation coefficient of -0.0829 between male unemployment rate and the rate of CaW&G, meaning that against our expectations, the two variables are inversely correlated although the magnitude of the relationship is small. While the north-eastern states of Nagaland (18.3 per cent), Manipur (10.2 per cent) and Mizoram (8.8 per cent) have higher male unemployment across India, the crime rates in these states vary significantly: 6.9 per cent,

18.1 per cent and 57.6 per cent, respectively. Therefore, in general for India, the association between male unemployment and crime against women is not very different from that established in literature (Srivastava, 2018, and Elliott and Ellingworth, 1996). However, the case for Delhi is an exception that demonstrates the positive relationship between male unemployment (9.2 per cent) and the rate of CaW&G (133.3 per cent): both are high.



6 LIMITATIONS

In Section 3, there is a mention of the various drawbacks faced in comparing the data sets for FLFPR – EUS and PLFS for 2011-12 and 2017-18, respectively, as also with NCRB 2011 and 2017. While some top-line indicators in EUS and PLFS allow broad comparisons across the two datasets, both differ in terms of sampling design, schedule structure, survey methodology and the data collection mechanism.

As far as crime incidents and rates of crime are concerned, the numbers with NCRB solely rely on cases that are reported for which the police record an FIR on the basis of the 'Principle Offence Rule' (see section 3.2). The potential reasons for underreporting such events are captured in detail in Section 3.2. Due to lack of

actual data on crimes against women and girls, no definite inferences can be drawn on how violence affects social outcomes. Therefore, this paper limits analysis to four key types of crimes that act as barriers to work for women. Furthermore, over time, NCRB has evolved and nuanced the classifications under which it reports crime. For example, in 2017, NCRB reported crimes under the classification of those committed against girls and women, whereas no such classification exists for the data in 2011. Also, the reporting of K&A has become more sophisticated over the years with separate accounting for human trafficking, selling and buying of girls, and importation of girls from foreign countries. For 2017, we have made our own calculations to arrive at the number of incidents of K&A in 2017 and this is covered in section 3.2. Continuous amendments made in the IPC on the basis of which the crimes are categorised also affect the outcome and report. Therefore, there is bound to be some variation in the data for the two years in consideration.



7

CONCLUSION AND WAY FORWARD

Of all the players in the ecosystem, states have the greatest capacity to enact policies and implement interventions that can directly or indirectly alter women's capabilities and result in gender equity. Das Gupta et al. (2004) outline these as "legislation pertaining to the family and to the workplace, political representation, forms of affirmative action, broader development strategies relating to economic and social development, and the establishment of institutions of modern governance". For instance, the Madhya Pradesh government is currently developing a system where women who work outside of their homes can register at a police station and be tracked for their safety (Wadia and Nale-Tajane, 2021). Although, controversial, the system certainly has benefits in this context.

Over time, reform in India's penal and civil legislations with respect to gender-based violence demonstrates a symbolic achievement, albeit a small first step in a long-drawn and complex process, to strengthen women's rights and reduce violence against women by criminalising physical or sexual violence against women (Bott et al., 2005). However, like in the case of other low- and middle-income countries, the allocation of resources to implement changes in laws and policies is scarce. Law enforcement institutions (the police and judges) are under-funded, slow, inaccessible, incompetent and even corrupt, making conviction and law enforcement nearly impossible. To make matters worse, women and girls are merely barriers to equal participation in society due to their lack of awareness of their rights (Bott et al., 2005).

Although information, education and communication campaigns and media can create greater awareness aimed at deterring and reporting crime, these interventions will remain insufficient until cultural changes in ensuring women's autonomy are mitigated, and women are rapidly integrated into education and formal employment (Solotaroff and Pande, 2014, and Das Gupta et al., 2004). Towards this, the household and community play an equally critical

role in enabling and supporting women to avail benefits from policies and programmes aimed at bringing about gender equity. Hence, eradicating and preventing violence against women and girls require coordinated action and commitment from many actors, "including governments, civil society, the judiciary, police, media, healthcare workers, educators and the international community" (Venis and Horton, 2002). Only then can one look at the holistic picture of the economic empowerment of women.

In line with these steps, it is imperative that the data recorded by NCRB accurately captures the true magnitude of incidents and is not underreported. This raises the need to overhaul the very system of reporting events of crime to the police such that the data collection system reflects actual numbers. It is only then such a correlation analysis will give a more realistic and error-free picture. One way to capture crime data correctly is to have multiple sources of data collection, such as official reports from the police, surveys of victims, and self-reports from offenders, in addition to the NCRB which is based on the singular source of police FIR records.

It is well understood that proactively helping women to move into jobs traditionally held by men, eliminating discrimination in hiring and training, moving them into top management, and adopting pro-family and pro-woman policies, such as family leave and childcare assistance, serve as encouraging factors for women to participate in the labour force (Fitzgerald, 1993). However, given that crimes deter women from reaching their full potential, steps should be taken to altogether prevent violence against women and girls. A framework being conceptualised by Mehta (forthcoming) captures these strategies in the 'SAFETY' framework presented in Figure 17. The framework describes measures that can be undertaken by various actors simultaneously to bring about the much-needed social change.

Figure 17: SAFETY Framework: Strategies to Prevent Violence Against Women and Girls, Mehta (forthcoming)

- **Services:** - Education, health (screening services), psychological counselling, hotlines, sensitisation and training of institutional personnel
 - » Earmark funding, and dedicate classified and adequately resourced support services to women who experience violence (UN Women, 2020)
 - » Address slowdowns in the justice system to avoid impunity (UN Women, 2020)
- **Attitudes:** Group-based workshops with women and boys, changes in norms/egalitarian attitudes within relationships, edutainment, bystander interventions
 - » Recognise women and girls as individuals with rights to their own identities, sexualities and other forms of self-expression, at par with the rights and privileges that men and boys enjoy (Solotaroff and Pande, 2014)
 - » Change beliefs and safety responses that determine and predict how women enter the labour force (University of Munich, 2020)
- **Focus on community:** Equal wages for men and women, community mobilisation/standalone awareness campaigns, alcohol misuse prevention mechanisms
 - » Build capacity and raise awareness about violence against women and girls, train society on how respond, protect and refer survivors to appropriate services (UN Women, 2020)
- **Empowerment of women:** - Inheritance/asset ownership interventions for women, microfinance/savings/loans, empowerment training including life skills/violence prevention, employment policies (livelihood/employment training), cash transfers
 - » Put women at the centre of policy change and decision-making processes to ensure that their needs are met and fulfilled (UN Women, 2020)
 - » Increase decent employment opportunities for women, improve working conditions and fair pay (Deol, 2020).
 - » Mandate safe, supportive and sensitive working spaces with appropriate security measures for women (Mehrotra and Parida, 2017, and Satyam and Pickup, 2018)
- **Transport and other infrastructure:** Safe transport, shelter, one-stop crisis centres, whole-school interventions (separate toilets for girls), women's police stations
 - » Modify public amenities and services for women to realise their rights. Examples include dedicating a part of public transportation only to women, such as those practised in Delhi and Mumbai in the local train/metro, cab services with dedicated women drivers for women passengers only (Chakraborty et al., 2014)
- **Youth interventions:** Life skills/violence prevention training, group education with boys to change attitudes psychological counselling, health worker outreach
 - » Train boys and young adult males to change their attitudes towards gender-based discrimination and violence (USAID, 2015)
 - » Incorporate gender sensitisation curriculum at the school level to align students' attitudes with gender-equal views (Breakthrough and governments of Haryana, Bihar, Jharkhand, Uttar Pradesh and Punjab, since 2012)

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APPENDIX

Table A: Rate of Crime and Female Labour Force Participation Rate, by state

State/UT	FLFPR 2011-12 (in %)	FLFPR 2017-18	Crime Rate 2011 (in %)	Crime Rate 2017 (in %)	Difference in Crime Rate (in % points) ↓
Assam	17.30	12.70	36.90	143.60	106.70
Delhi UT	14.80	14.30	31.25	133.30	102.05
Odisha	32.50	19.50	22.49	94.50	72.01
Haryana	19.50	14.30	21.66	88.70	67.04
Madhya Pradesh	30.60	31.70	22.86	78.60	55.74
Chandigarh	17.20	25.20	14.72	59.80	45.08
Chhattisgarh	55.30	49.30	16.52	61.10	44.58
Rajasthan	42.80	27.00	28.98	73.30	44.32
Sikkim	62.80	43.90	9.02	53.10	44.08
Mizoram	48.80	30.00	15.32	57.60	42.28
Uttar Pradesh	36.50	18.10	11.34	53.20	41.86
Arunachal Pradesh	37.90	14.70	12.39	53.40	41.01
Maharashtra	38.10	30.80	14.00	55.00	41.00
Andhra Pradesh	47.00	42.50	33.36	68.90	35.54
West Bengal	25.40	20.80	31.89	67.30	35.41
A&N Islands	35.90	33.50	13.42	47.70	34.28
Meghalaya	54.80	51.20	9.09	40.70	31.61
Goa	24.30	30.90	8.70	39.60	30.90
Karnataka	32.70	26.00	15.69	45.20	29.51
Uttarakhand	24.50	13.50	9.84	36.80	26.96
Jammu & Kashmir	32.40	30.20	25.07	51.90	26.83
Kerala	31.90	26.50	33.81	60.20	26.39
Jharkhand	25.40	15.40	9.50	35.60	26.10
Punjab	26.80	15.50	9.53	34.10	24.57
Himachal Pradesh	63.30	49.60	14.53	35.70	21.17
Bihar	8.70	4.10	9.86	28.80	18.94
Daman & Diu	11.60	24.90	4.58	23.00	18.42
Tripura	37.30	12.50	37.00	51.20	14.20
Lakshadweep	22.10	18.40	0.00	14.00	14.00
Gujarat	30.10	19.90	14.60	27.00	12.40
Puducherry	23.50	17.10	7.18	19.30	12.12
Manipur	36.00	23.50	9.08	18.10	9.02
Tamil Nadu	40.00	33.70	9.62	15.50	5.88
Nagaland	41.20	16.70	1.92	6.90	4.98
D&N Haveli	21.30	39.70	5.29	9.90	4.61
Telangana		32.60		94.70	
All India	31.20	23.30	18.89	57.90	39.01

Table B: Rate of Rape

State/UT	Rate of Rape 2011 (in %)	Rate of Rape 2017 (in %)	Difference in Rate of Rape (in % points) ↓
Chhattisgarh	4.10	14.60	10.50
Madhya Pradesh	4.70	14.70	10.00
Delhi UT	3.40	12.50	9.10
Kerala	3.40	10.90	7.50
Odisha	2.70	9.70	7.00
Rajasthan	2.60	9.30	6.70
Arunachal Pradesh	3.00	9.40	6.40
Goa	2.00	8.20	6.20
Chandigarh	2.60	8.60	6.00
Uttarakhand	1.30	7.10	5.80
Daman & Diu	0.40	6.20	5.80
Haryana	2.90	8.60	5.70
Assam	5.50	11.00	5.50
Himachal Pradesh	2.50	7.10	4.60
Meghalaya	4.40	8.50	4.10
Jharkhand	2.40	5.50	3.10
Uttar Pradesh	1.00	4.00	3.00
Sikkim	2.60	5.50	2.90
Jammu & Kashmir	2.20	4.90	2.70
Punjab	1.70	3.90	2.20
Andhra Pradesh	1.70	3.80	2.10
Maharashtra	1.50	3.30	1.80
A&N Islands	3.40	4.70	1.30
Manipur	1.90	3.10	1.20
Gujarat	0.70	1.60	0.90
Karnataka	1.00	1.80	0.80
Puducherry	0.60	0.90	0.30
Bihar	0.90	1.20	0.30
Lakshadweep	0.00	0.00	0.00
Tamil Nadu	0.90	0.80	-0.10
West Bengal	2.60	2.40	-0.20
Nagaland	1.20	0.90	-0.30
Tripura	5.60	5.00	-0.60
D&N Haveli	1.20	0.50	-0.70
Mizoram	7.10	4.80	-2.30
Telangana		3.00	
All India	2.00	5.20	3.20

Table C: Rate of Kidnapping & Abduction

State/UT	Rate of K&A 2011 (in %)	Rate of K&A 2017 (in %)	Difference in Rate of K&A (in % points) ↓
Chhattisgarh	1.40	11.13	9.73
Madhya Pradesh	1.50	13.74	12.24
Delhi UT	12.40	38.56	26.16
Kerala	0.70	1.00	0.30
Odisha	2.40	13.04	10.64
Rajasthan	4.00	10.81	6.81
Arunachal Pradesh	4.30	11.75	7.45
Goa	1.20	6.56	5.36
Chandigarh	4.40	18.16	13.76
Uttarakhand	2.80	7.03	4.23
Daman & Diu	0.80	0.00	-0.80
Haryana	2.90	23.01	20.11
Assam	10.20	34.65	24.45
Himachal Pradesh	2.80	6.93	4.13
Meghalaya	1.20	3.88	2.68
Jharkhand	2.00	6.31	4.31
Uttar Pradesh	3.80	14.23	10.43
Sikkim	1.60	8.71	7.11
Jammu & Kashmir	8.20	15.44	7.24
Punjab	1.90	8.12	6.22
Andhra Pradesh	1.90	2.74	0.84
Maharashtra	1.10	10.76	9.66
A&N Islands	3.20	1.07	-2.13
Manipur	4.30	5.34	1.04
Gujarat	2.40	4.18	1.78
Karnataka	1.20	3.11	1.91
Puducherry	0.70	1.18	0.48
Bihar	2.90	12.11	9.21
Lakshadweep	0.00	0.00	0.00
Tamil Nadu	2.40	2.47	0.07
West Bengal	4.10	9.26	5.16
Nagaland	0.20	0.61	0.41
Tripura	3.20	4.74	1.54
D&N Haveli	2.30	0.00	-2.30
Mizoram	0.00	0.00	0.00
Telangana		5.05	
All India	2.90	10.69	7.79

Table D: Rate of Sexual Harassment

State/UT	Rate of Sexual Harassment 2011 (in %)	Rate of Sexual Harassment 2017 (in %)	Difference in Rate of Sexual Harassment (in % points) ↓
Odisha	0.60	2.30	1.70
Delhi UT	1.00	6.30	5.30
Assam	0.00	0.70	0.70
Madhya Pradesh	1.00	0.70	-0.30
Karnataka	0.10	0.70	0.60
Jammu & Kashmir	2.80	0.70	-2.10
Andhra Pradesh	4.30	7.70	3.40
Haryana	1.90	1.40	-0.50
Kerala	1.70	2.30	0.60
Maharashtra	1.00	1.60	0.60
Goa	0.80	3.30	2.50
Arunachal Pradesh	0.00	0.80	0.80
Chandigarh	1.10	1.60	0.50
Uttar Pradesh	0.00	0.10	0.10
Rajasthan	0.00	0.10	0.10
A&N Islands	0.80	4.00	3.20
Chhattisgarh	0.70	1.10	0.40
Uttarakhand	0.70	0.10	-0.60
Himachal Pradesh	0.90	1.50	0.60
Punjab	0.10	0.20	0.10
West Bengal	0.20	1.00	0.80
Mizoram	0.10	0.40	0.30
Daman & Diu	0.00	0.90	0.90
Tripura	0.20	0.50	0.30
Meghalaya	0.00	1.50	1.50
Manipur	0.00	0.60	0.60
Jharkhand	0.00	0.60	0.60
Sikkim	0.00	2.30	2.30
Gujarat	0.20	0.10	-0.10
Puducherry	1.30	0.50	-0.80
D&N Haveli	0.00	0.00	0.00
Nagaland	0.00	0.00	0.00
Tamil Nadu	0.60	0.00	-0.60
Lakshadweep	0.00	0.00	0.00
Bihar	0.00	0.00	0.00
Telangana		6.30	
All India	0.70	1.20	0.50

Table E: Rate of Molestation

State/UT	Rate of Molestation 2011 (in %)	Rate of Molestation 2017 (in %)	Difference in Rate of Molestation (in % points) ↓
Odisha	7.60	42.90	35.30
Delhi UT	3.90	29.30	25.40
Assam	3.80	22.20	18.40
Madhya Pradesh	9.20	24.40	15.20
Karnataka	4.30	18.50	14.20
Jammu & Kashmir	9.50	23.50	14.00
Andhra Pradesh	5.70	19.70	14.00
Haryana	1.90	15.80	13.90
Kerala	11.20	24.00	12.80
Maharashtra	3.40	16.20	12.80
Goa	2.00	14.40	12.40
Arunachal Pradesh	3.70	15.40	11.70
Chandigarh	2.00	13.20	11.20
Uttar Pradesh	1.70	12.00	10.30
Rajasthan	3.60	13.80	10.20
A&N Islands	3.90	13.70	9.80
Chhattisgarh	6.50	14.50	8.00
Uttarakhand	1.10	8.20	7.10
Himachal Pradesh	4.80	11.40	6.60
Punjab	1.00	6.90	5.90
West Bengal	2.60	8.30	5.70
Mizoram	6.60	12.20	5.60
Daman & Diu	0.00	5.30	5.30
Tripura	8.00	11.90	3.90
Meghalaya	2.50	6.30	3.80
Manipur	1.40	5.10	3.70
Jharkhand	1.00	4.50	3.50
Sikkim	3.90	6.80	2.90
Gujarat	1.10	3.50	2.40
Puducherry	2.80	4.30	1.50
D&N Haveli	0.60	1.50	0.90
Nagaland	0.50	1.00	0.50
Tamil Nadu	2.00	2.10	0.10
Lakshadweep	0.00	0.00	0.00
Bihar	0.80	0.40	-0.40
Telangana		23.80	
All India	3.60	13.80	10.20

Table F: Rate of New Age Crimes

State/UT	Rate of Attempt to Rape 2017 (in %)	Rate of Acid Attack 2017 (in %)	Rate of Cybercrime 2017 (in %)
A&N Islands	0.00	0.00	0.00
Andhra Pradesh	0.70	0.01	0.06
Arunachal Pradesh	3.80	0.00	0.00
Assam	2.40	0.02	1.05
Bihar	0.60	0.01	0.01
Chandigarh	0.40	0.00	0.39
Chhattisgarh	0.10	0.00	0.04
D&N Haveli	0.00	0.00	0.00
Daman & Diu	0.00	0.00	0.00
Delhi UT	0.20	0.08	0.20
Goa	0.00	0.00	0.00
Gujarat	0.00	0.01	0.03
Haryana	1.10	0.03	0.12
Himachal Pradesh	0.20	0.06	0.57
Jammu & Kashmir	0.30	0.02	0.07
Jharkhand	1.00	0.00	0.00
Karnataka	0.00	0.01	0.11
Kerala	0.30	0.05	0.12
Lakshadweep	0.00	0.00	0.00
Madhya Pradesh	0.20	0.01	0.06
Maharashtra	0.00	0.00	0.05
Manipur	0.30	0.08	0.08
Meghalaya	1.40	0.00	0.22
Mizoram	0.20	0.00	0.19
Nagaland	0.20	0.00	0.00
Odisha	0.70	0.05	0.11
Puducherry	0.40	0.00	0.00
Punjab	0.60	0.03	0.10
Rajasthan	1.60	0.01	0.03
Sikkim	0.70	0.00	0.00
Tamil Nadu	0.00	0.01	0.08
Telangana	0.20	0.01	0.21
Tripura	0.90	0.00	0.00
Uttar Pradesh	0.60	0.04	0.03
Uttarakhand	0.40	0.06	0.38
West Bengal	2.70	0.08	0.13
All India	0.70	0.02	0.10

Table G: Other Predominant Factors that Affect Crime Rate

State/UT	FLFPR 2017-18 (in %)	Crime Rate 2017 (in %)	Men aged > 15 years who consume alcohol (in %)	Complete state-wide Alcohol Ban Yes/No	Rate of Male Unemployment 2017-18 (in %)
Andhra Pradesh	42.50	68.90	23.30	No	4.80
Arunachal Pradesh *	14.70	53.40	59.00	No	4.90
Assam	12.70	143.60	25.10	No	7.10
Bihar	4.10	28.80	15.50	Yes	7.20
Chhattisgarh *	49.30	61.10	52.70	No	3.30
Goa	30.90	39.60	36.90	No	8.10
Gujarat	19.90	27.00	5.80	Yes	5.00
Haryana*	14.30	88.70	24.50	No	8.00
Himachal Pradesh	49.60	35.70	31.90	No	6.30
Jammu & Kashmir	30.20	51.90	8.80	No	4.20
Jharkhand *	15.40	35.60	39.30	No	7.90
Karnataka	26.00	45.20	16.50	No	4.90
Kerala	26.50	60.20	19.90	No	6.20
Madhya Pradesh *	31.70	78.60	29.60	No	5.10
Maharashtra	30.80	55.00	13.90	No	4.60
Manipur	23.50	18.10	37.50	No	10.20
Meghalaya	51.20	40.70	32.40	No	1.30
Mizoram	30.00	57.60	23.80	Yes	8.80
Nagaland	16.70	6.90	24.00	Yes	18.30
Odisha *	19.50	94.50	39.30	No	7.30
Punjab *	15.50	34.10	34.00	No	6.90
Rajasthan *	27.00	73.30	15.90	No	5.90
Sikkim	43.90	53.10	39.80	No	2.60
Tamil Nadu *	33.70	15.50	46.70	No	7.60
Telangana	32.60	94.70	43.30	No	7.70
Tripura	12.50	51.20	33.10	Yes	6.10
Uttar Pradesh *	18.10	53.20	22.10	No	6.80
Uttarakhand *	13.50	36.80	35.20	No	6.80
West Bengal	20.80	67.30	18.10	No	5.00
A&N Islands	33.50	47.70	39.10	No	5.30
Chandigarh *	25.20	59.80	34.60	No	5.20
D&N Haveli	39.70	9.90	26.10	No	0.60
Daman & Diu ^	24.90	23.00	28.90	No	3.00
Delhi UT *	14.30	133.30	24.70	No	9.20
Lakshadweep	18.40	14.00	0.40	Yes	12.50
Puducherry *	17.10	19.30	41.00	No	7.20
All India	23.30	57.90			6.10

Notes:

-Data for Jammu & Kashmir for NFHS-5 is for the UT. Data for Ladakh (UT) is reported separately, not included in this analysis

- *: Data for 'Men aged > 15 years who consume alcohol' is as per NFHS-4

- ^ : NFHS-5 data for D&N Haveli and Daman & Diu is calculated as average



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M-6, 2nd Floor, Hauz Khas, New Delhi – 110 016, India | +91 11 4909 6529 | www.iwwage.org