

# Sexual harassment of students on public transport: an exploratory study in Lucknow, India

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**Abstract** Studies suggest that incidents of sexual harassment are common occurrence on public transport in India, but there is little reliable data to understand and tackle the problem. This research explores actual and witnessed victimisations as well as perceptions of the risk by a sample of 200 tertiary female students in Lucknow, India. Consistent with literature, sexual harassment victimisation appears to be most prevalent in buses and increases with the frequency of use of public transport. We found that the number of incidents experienced as a victim and as a witness were comparable, suggesting events of sexual harassment are not widely noticed by other passengers, perhaps because they are so commonplace as not to be especially noticed. Finally, the respondents felt female students were particularly targeted amongst women more generally, but did not identify any specific risk factors in relation to the profiles of the offenders or victims.

**Keywords** Sexual harassment · Public transport · Victimisation · India

## Introduction

Sexual harassment can have a debilitating effect on women's lives and lead to feelings of anxiety, low self-worth and long-term mental trauma (Fairchild and Rudman 2008; Loukaitou-Sideris and Fink 2008). In particular, research in the developed world has shown that women's fears and concerns about safety negatively influence their travel decisions: they avoid specific transit routes or bus stops, use them only during daytime, or do not use public transport at all if they

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believe that they may be harassed or victimised during their journey (Hickman and Muehlenhard 1997; Krahe 2005; Needle and Cobb 1997; Stanko 1995; Warr 1985). In India where public transport can be very crowded, women with limited incomes and daily transport needs—such as college students—are perhaps among those at greater risk of both sexual harassment and social exclusion from participating in urban life (Cervero and Golub 2007; Lucas 2012; Srinivasan et al. 2007).

Conducted in a large Indian city, the survey of 200 female students reported in this paper, was an attempt to better understand the risk of sexual harassment on the public transport network. Specifically, the objectives were to assess the accuracy of police records about sexual harassment incidents, identify patterns in actual and witnessed victimisations, and elicit the students' perceptions about potential risk factors. Using this information, we present recommendations that might provide law enforcement and public authorities with a more focused way forward to address this problem. First, the theoretical background of the study is discussed. This is followed by the characterisation of the study area and a description of the survey design. Finally, results and recommendations are presented at the end.

### **Extent of sexual harassment on public transport in India**

Although very few empirical studies on sexual harassment have been conducted in India (Natarajan 2016), there is evidence that the risk is serious for female school and college students (Chockalingham 2003; Joseph et al. 2014; Phadke 2010). A study by Jagori ( $N = 3816$  women and 944 men) found that school and college students in Delhi reported the maximum number of incidents of physical and verbal sexual harassment, with about 50% who reported having been harassed while using public transport and 42% having faced harassment while waiting for public transport (Jagori and U.N. Women 2010).

Overwhelming percentages of women reportedly are subjected to sexual harassment in public places, with buses being the most unsafe mode of public transport (Phadke 2010). The true extent of the problem is, however, difficult to estimate because of lack of quantitative studies and near total absence of crime data on the subject. According to official statistics only 33 incidents of sexual harassment took place on public transport systems across 53 Indian 'megacities' (i.e., urban centres with a population of more than a million people). For 85% of them, not a single case of sexual harassment on public transport was recorded by the police in 2014 and 2015 (National Crime Records Bureau 2014 and 2015).

In a study of the public transport system in Delhi, however, Anand and Tiwari (2006, p. 78) found that "most [female passengers] have a resigned acceptance of these daily incidents of sexual harassment". Following the gang-rape of a student on a bus in Delhi in 2012, however, major public demonstrations were held where participants drew attention to frequent and often serious cases of sexual harassment on public transport that went unrecorded (Majumder 2012). Yet, three years later, only 19 cases of sexual harassment of women on public transport system were recorded in Delhi, which suggests reporting and/or recording rates are very low.



## Patterns of sexual harassment on public transport

India has one of the lowest police-to-public ratios in the world, with only 71 police officers per 100,000 population in Uttar Pradesh (Harrendorf et al. 2010), suggesting police resources are likely to be prioritized towards other crime problems. With limited capacity, practitioners must apply crime reduction interventions selectively. For this, it is essential to have knowledge of patterns within offenses, such as profiles of likely victims, offenders, modus operandi, and victimisation times and places (Goldstein 1990; Loukaitou-Sideris 2009).

Academic findings on the patterns of sexual harassment on Indian public transport are very limited though. In recent years, the few studies conducted on this issue (Badami and Haider 2007; Chockalingam and Vijaya 2008; Leach and Sitaram 2007; Natarajan 2016) have been exploratory, relying solely on qualitative methods such as interviews to provide an insight into women's experiences in public places. To our knowledge, Natarajan's 'rapid assessment of eve teasing in Chennai' was the first to focus on the crime event, as a means towards identifying constituent characteristics of sexual harassment in public places in India, of which transport was a subset (Natarajan 2016). While these studies are vital in increasing our general understanding of this subject, quantitative results could provide more specific information to support and evaluate prevention and detection efforts.

### The study area: Lucknow

The study was conducted in Lucknow, the capital city of the state of Uttar Pradesh (UP). Previous research on the status of women in UP indicates the existence of significant gender-based violence and sexual exploitation (Ahmad et al. 2015; Koenig et al. 2006). According to the United Nations Development Program (UNDP), India ranked a lowly 135 out of 147 countries on the 2015 Gender Empowerment Measure (GEM), and in India UP held the 22nd position amongst its 29 states and seven union territories—making it one of the most gender unequal places in the world.

As the second largest city in North India (2.8 m), Lucknow has a fairly large public transport network. In 2011 it had about 7000 registered small auto-rickshaws (three passengers) and Vikram (up to seven passengers), 5000 taxis and 3000 buses. In addition, a large number of vehicles operate without registration (Transport Research Wing 2012). Although UP reports the highest number of crimes against women in India (National Crime Records Bureau 2015), it is indeed noteworthy that the police did not record a single case of sexual harassment of women on public transport in 2014 or 2015. This might be either because the police only record 'serious' crimes and anything less than serious sexual assault is not considered worthy of being registered or because women are unwilling to report 'routine' sexual harassment to the police.

At the time of the study, there was therefore a strong argument to seek alternative sources of data in order to estimate the extent of sexual offenses on public transport in Lucknow, and passengers' perception of the risk and responses to it. To this aim, we decided to survey female students registered in two tertiary education



institutions. In the absence of reliable police data, this subset of the local population and design type were considered suitable to start identifying patterns in sexual harassment incidents experienced as a witness or a victim, and potential risk factors.

## Data and methods

### The survey

India does not conduct any official national crime victimisation surveys like in the USA or Europe. For this reason, we designed a victimisation survey questionnaire, taking inspiration from the British Crime Survey (BCS), the National Crime Victimization Survey (NCVS) and a survey conducted by Belur et al. (2016) to study sexual harassment of women around toilets in the informal neighbourhoods of Mumbai. In this paper, we report results of only two sections of the questionnaire.

Defining sexual harassment can be a non-trivial exercise (Neupane and Chesney-Lind 2014) not only because a range of acts can come under its purview (from passing comments amongst a group of friends about a girl, to a sexual assault) but also because of differences in the perception of actions as sexual harassment or not, especially where no physical contact is involved. To overcome these issues, the survey used descriptive categories of sexual crimes against women recently added to the Indian law after the Delhi gang-rape case (Verma et al. 2013).

Collaboration with a local non-governmental organisation (NGO) working on the issue of sexual harassment of women on public transport helped ensuring that the survey instrument was socio-culturally sensitive. The survey was written in English and translated into Hindi for dissemination in both languages. The NGO also assisted, along with the police, in getting necessary permissions from the two colleges to conduct the study.

The survey was administered by 20 research assistants, all students at Lucknow University Department of Social Welfare. To ensure uniform administration, a two-day training workshop was conducted by the first author, who also coordinated the data collection work over a period of one week in September 2015. Participation in the research was entirely voluntary, and participants were assured of anonymity and confidentiality.

### Participants

The survey was administered to 200 female students between the age of 18 and 29 years old ( $m = 22.1$ ,  $SD = 5.7$ ) from two women's colleges in Lucknow. These two colleges are located within 500 metres of each other along the city's first line of the future metro rail system (MRS) and were selected with the view to evaluate the safety impact of this infrastructure in the future. Using a systematic sampling approach to select equal number of students in each college, the surveyors selected the first student arbitrarily and asked every fifth student who walked past a particular point to participate in the study.



Of the participants 77% identified themselves as Hindus, 18% as Muslims and 3% as Sikh, which is fairly comparable to the distribution found in the 2011 Lucknow census (72, 26 and 1%). In total, 137 (69%) were studying at a graduate level, while the rest were post-graduate students. More than half (58%) were living in private accommodation with their family, the others renting their homes. Finally, about 80% of the respondents indicated they would use the MRS at least once a day once it is operational.

Descriptive statistics were computed for the following variables: (1) respondents' frequency of use and perception of security for different means of public transport; (2) number of incidents experienced as a victim and a witness on public transport for six forms of sexual harassment; and (3) characteristics of incidents, perpetrators and victims. To identify the presence of a relationship between the number of incidents students had experienced as a victim and as a witness, coefficients of correlation were computed for each type of incidents, and for the set of incidents as a whole.

## Results

### Frequency of use of public transport and perception of security

The results in Table 1 show that the three-wheeled Vikram is the most commonly used means of transport amongst the respondents, with 67% of them using it at least once a day, followed by bus (53%), other (44%), and rickshaw (26%). Table 2 indicates that it was rated as insecure or very insecure by 34% of our sample, behind bus (46%). In comparison, rickshaws were rated as insecure by only 5% of them. Finally, 63% could not assess how safe other means of transport (e.g., taxis) were.

### Experience of sexual harassment incidents on public transport

The data used to generate Table 3 indicate that every respondent (100%) had been both a victim of, and a witness to, at least one of the six forms of sexual harassment included in the study during a 6-month period from mid-March to mid-September 2015. The incidents most frequently experienced were men making 'physical contact and advances' and 'sexually coloured remarks' which were experienced by virtually every participant in the previous 6-month period.

**Table 1** Frequency of use of different modes of public transport,  $N = 200$

	More than twice a day (%)	Twice a day (%)	Once a day (%)	1–6 times a week (%)	1–4 times a month (%)	Less than once a month (%)
Vikram	22.4	33.3	11.5	15.8	6.1	10.9
Bus	4.8	15.8	32.1	9.7	17.0	20.6
Rickshaw	6.7	10.9	7.9	12.1	38.8	23.6
Other	20.3	10.2	13.6	18.6	8.5	28.8



**Table 2** Perception of security for different modes of public transport,  $N = 200$ 

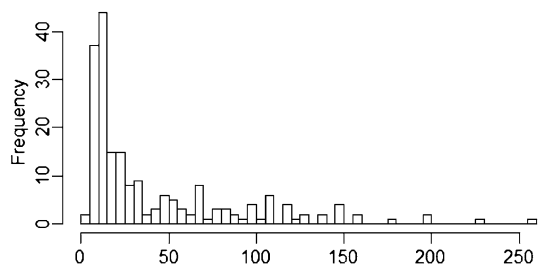
	Very secure (%)	Secure (%)	Neither secure nor insecure (%)	Insecure (%)	Very insecure (%)	Cannot say (%)
Vikram	1.2	17.6	47.9	23.6	9.0	0.6
Bus	0	10.9	42.4	34.5	7.3	4.8
Rickshaw	20.6	61.8	12.1	4.2	0	1.2
Other	13.3	8.5	6.7	7.4	1.2	63.0

**Table 3** Number of incidents respondents indicated having experienced on the public transport in Lucknow (March–September 2015),  $N = 200$ 

Form of sexual harassment	Perceived number of incidents over 6 months (median and mean)		Ratio and correlation coefficient ( $R$ )
	As a victim	As a witness	
Physical contact and advances involving unwelcome and explicit sexual overtures	5	5	(1.21; 0.80)
Demand or request for sexual favours	2	3	(1.12; 0.58)
Sexually coloured remarks	3	5	(1.05; 0.85)
Forcibly showing pornography	2	2	(1.17; 0.76)
Any other unwelcome physical, verbal or non-verbal conduct of sexual nature	2	2	(1.23; 0.68)
Voyeurism (e.g., making a secret video of the woman)	2	2	(0.81; 0.70)

As indicated in Fig. 1, the frequency distributions for the number of victimisation incidents as a victim and a witness are both positively skewed, with comparable medians and interquartile ranges: (Mdn = 21; IQR = 50) and (Mdn = 21; IQR = 53), respectively. It suggests that 25% of the students have experienced more than ten incidents per month—Technical note: the number of incidents is likely to be smaller than the numbers of events. This is because a victim might have experienced multiple forms of sexual harassment acts during a given *event*.

We observe a strong correlation between the total number of victimisations experienced as a victim or a witness ( $R = 0.87$ ). However, the correlation

**Fig. 1** Frequency distribution—total number of sexual harassment incidents experienced as a victim (March–September 2015),  $N = 200$ 

coefficient decreases sharply to 0.52 when we remove the 61 data points with at least one value in the last quartile. On the whole, the students perceived they had experienced 17% more incidents as a victim than as a witness, except for *voyeurism* (19% less). The similarity between these numbers could be due to the inconspicuous nature of those acts or the fact that they are so commonplace as not to be especially noticed or remembered by the respondents. The fact that respondents reported having experienced more incidents of voyeurism as a witness than as a victim could be because the offender purposely attempts to avoid detection by the victim, unlike those incidents that involve physical contact or explicit verbal interaction with the victim.

### Profiles of perpetrators and victims

The great majority of respondents (80%) indicated that the risk of harassment was equally distributed during the day and across the seasons. Nearly three quarters of the students (74%) indicated that the perpetrators “had no particular age”, and that they could operate equally on their own or in groups. About half of them (51%) felt offenders could equally plan incidents or act on opportunities. Finally, three-fourths said that the victims could be either known or unknown to the offender. Almost half of the respondents felt that young and adolescent girls were the most common targets (45%), but there was no agreement on whether any particular attribute made them particularly vulnerable to sexual harassment: travelling alone (22%), the clothes they wore (21%), pregnancy (10%) or illness (8%).

### Discussion

Official statistics indicate no sexual harassment incident has been reported on Lucknow’s public transport in 2014–2015. However, we found that every respondent in our sample had been a victim or a witness of sexual harassment in a 6-month period in 2015. This discrepancy between official and self-reported figures raises troubling questions about the capacity of police records to serve as a crime barometer and the ability of the stakeholders to address this problem effectively. Therefore, the main barriers to reporting in this local context should be identified, and new mechanisms considered to encourage victims to report these events.

The study identified patterns in the students’ perception of sexual harassment. Confirming the results obtained by Jagori and U.N. Women (2010), we found buses and Vikram were perceived as the most insecure by the respondents, possibly because both are relatively crowded means of transport when compared to rickshaws and taxis, and thus offer better opportunities to offend (Smith and Clarke 2000). Table 3 shows that incidents of verbal sexual harassment that were categorised as ‘making sexually coloured remarks’ and ‘making a demand for sexual favours’ were relatively higher than physical harassment through touching or groping. The respondents also reported that they had experienced incidents of voyeurism including men making a video secretly and forcibly showing them pornography. These may be attributed to ubiquity of smart phones that facilitates the making and showing of



videos. Shortly after our study, the authorities started implementing a communication campaign to highlight the fact that lewd behaviour is unacceptable and criminal and perpetrators would be prosecuted. We recommended this should be accompanied by systematic enforcement which would convey that sexual harassment is unacceptable and increase offenders' perceived risk of being caught.

In the past decade, the Indian government and private sector organisations have been investing heavily in public transport infrastructures, especially through the construction of MRS's. It is the government's policy, in particular, that every Indian city with a population of more than two million inhabitants should build a rail-based transport system; and more than 34 projects are either already operational or will be in the next 10 years (Ministry of Urban Development 2013). Indian policy makers need to acknowledge that one of the biggest hurdles to women's mobility remains the anxiety over possible victimisation in public spaces, buses and trains. It has been argued that such fear represents a form of gender inequality embedded within the transit system (Dunckel-Graglia 2013; Smith 2008), and studies like this can assist police to understand the scale of the problem and adopt problem oriented approaches to address women's concerns.

### **Limitations of the study**

These findings should not be generalised to the entire female population of Lucknow, as we saw in reports in the local media (Hindustan Times 2015). All the participants were students, and therefore relatively young and their experiences of sexual victimisation may not be transferrable to older women, illiterate or uneducated women or those with economically weak status.

Furthermore the travel patterns of female students can be highly concentrated, both in space and time. This is in contrast to older women who make a larger number of shorter, more diverse trips close to their homes to carry out daily chores such as shopping for groceries, or dropping their children to school (Elias et al. 2015). Additionally, a significant proportion of working women in Lucknow tend to use private vehicles in comparison with students for their daily commute.

The range of victimisation rates reported by the students was fairly large. This aspect of the data should be explored, as it may reflect the heterogeneity of this phenomenon or some data reliability issues with some of the participants. Similarly, some of the questions aimed at identifying a typical profile of the incidents should be interpreted carefully as individual students only possess limited information about the problem. For example, the respondents may not be very familiar with the risk outside their own (routine) commuting times.

The sample size of 200 is also a limitation. However, the number has to be seen in context of the fact that the researchers were seeking detailed information on a taboo subject in a conservative society, which posed a challenge in getting volunteers for the study.

Finally, as the survey was entirely focused on sexual harassment, the respondents could have overestimated victimisation rates due to social desirability response bias. Alternatively, they could have been underestimated because victims and other passengers do not always notice those crimes.





## Conclusion and recommendations

The research reported confirms previous findings that sexual harassment on buses and Vikram is a pervasive problem in certain parts of India which is not being given due attention either by local governments or transport providers. Most of the attention is focused on identifying and preventing serious incidents of sexual assaults, but women have to deal with a much larger extent of low level sexual harassment on a daily level identified by the survey, in line with other studies—causing distress and anxiety while using public transport—and needs addressing.

The survey has proved a useful method to start building a detailed picture of the problem of sexual harassment in situ, and should be implemented in other cities to ensure it is seriously considered by public transport regulators. Specifically, it has showed that many female students felt young women were particularly targeted but that the risk was omnipresent with no particular seasons or times when incidents were more likely to happen, and that there was no stereotypical profile for the perpetrators or their modus operandi.

At a time where new MRS's are being constructed across India, the findings provide some lines of action for public transport authorities and private providers as well as law enforcement practitioners.

- In the first instance, there is a need for clear government guidelines for allocating specific areas of responsibility for ensuring passenger safety to various public and private agencies involved in the provision, maintenance and security of various public transport.
- The guidelines should also lay down the framework whereby responsible agencies are charged with identifying vulnerabilities in the public transport system that facilitate sexual harassment and putting in appropriate preventive measures.
- The framework should specify mechanisms to ensure co-ordination and information sharing between the police, transport providers, and interested NGOs in the area of security provision.
- Ensuring transport providers fulfil minimum standards of service provision (when these have been fully identified) should be woven into their contractual obligations.
- The department for transport (or its equivalent) should be responsible for liaising with law enforcement to ensure women are provided with adequate protection—this includes measures like background checks on transport staff in sensitive positions.
- Further, increasing guardianship at specific locations or specific times where maximum harassment takes place in the form of CCTV cameras or additional security personnel will have a significant impact on the problem.
- Finally, as the paper demonstrates, we recommend carrying our extensive victimisation surveys to assist the efforts of public and law enforcement authorities in concentrating their efforts at targeting scarce resources most effectively.

Wider awareness campaigns to emphasise the message that sexual harassment is unacceptable and urging women to come forward to register complaints by



providing more victim friendly reporting facilities is the appropriate direction in which the problem can be tackled at a broader social level.

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