



# Decomposing the gap in intimate partner violence between Scheduled Caste and General category women in India: An analysis of NFHS-5 data

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## ABSTRACT

Scheduled Caste (SC) women, one of India's most oppressed and neglected population groups, are the most vulnerable to intimate partner violence (IPV). IPV, on the other hand, is less common among women in the General category. No study has been conducted to measure the gap in IPV between these two groups. This study is an attempt to fill this gap. This study aims to comprehensively explore the factors that underlie and explain the gap in IPV between SC and General women. Information on 10,168 ever-married SC and 9695 ever-married General women aged 15–49 from the fifth round of the National Family Health Survey was analyzed. The Fairlie decomposition (Blinder–Oaxaca decomposition modified for binary outcomes) was used in this study to explain the gap in ever experience of IPV prevalence between SC and General women. About 37.3% and 24.4% of ever-married SC and General women in India suffered either physical or mental or sexual violence from their husbands. The large part of the gap in IPV between SC and General women was due to differences in husbands' alcohol consumption (26.33% gap), wealth index (24.48% gap), controlling behavior by husband (24%) and parental IPV (15.87% gap). With the introduction of appropriate interventions and programs, these gaps can be reduced. Interventions aimed at reducing alcoholism should be emphasized.

## 1. Introduction

Caste is a closed social stratification system in which a person is born into a group and stays in that group for life. Castes are also endogamous, which means that people can't marry outside of their caste, and their children automatically belong to the caste of their parents. Caste divides society into distinct divisions, with those with more authority at the top and others with little or no authority at the bottom of the hierarchy. For centuries, the caste system has been one of the distinguishing features of the mainstream Indian society (Chowdhury, Singh, Kasemi, Chakrabarty, & Roy Pakhadhara, 2022; Singh, Chakrabarty, Chowdhury, & Singh, 2022).

Under traditional caste system, the entire society was divided into two broad categories: *Savarna* (touchables) and *Avarna* (untouchables). The *Savarna* was comprised of four broad groups, namely *Brahmins* (priests), *Kshatriyas* (warriors), *Vaishyas* (traders), *Shudras* (workmen), with the *Brahmins* at the top and the *Shudras* at the bottom of the *Savarna* caste hierarchy. *Avarna* (untouchables) were the communities that were considered so substandard that they were shunned and ostracized by the

*Savarnas* (Chowdhury, Singh, Kasemi, & Chakrabarty, 2022; Pankaj, 2019; Sankaran, Sekerdej, & Hecker, 2017). They were forced to live on the outskirts of villages or as urban squatters with no political or civil rights and little land and wealth. During much of the time of British administration on the Indian subcontinent, these untouchable communities were collectively known as the *Depressed Classes*. In the post-independence era, they were listed in the Constitution of India and were officially rechristened as "*Scheduled Castes*". Today, they are also referred to as "*Dalit*" (broken people) and "*Ex-untouchables*". According to the 2011 Census of India, they constituted about one-sixth (200 million) of the entire population of India.

Many *Savarna* caste groups that had experienced socioeconomic and scholastic disadvantage in the historical period due to their low social location in the caste hierarchy were officially put under a separate category in 1980, "Other Backward Classes (OBC)". The remaining *Savarnas*, belonging to the top rungs of the hierarchical caste system, were not given any collective name officially, but for all practical purposes, came to be known as "Others" or "General" (Dushkin, 1967). There is no official population figure available for both OBC and General

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castes. The indigenous or tribal groups that were not a part of the traditional caste-based social hierarchy prevalent in the mainstream Indian society, were officially designated as “Scheduled Tribes”. They were close to 9% of the entire population of the country in 2011. Thus, the current Indian population is officially divided into four broad social groups namely, Scheduled Tribes (STs), Scheduled Castes (SCs), Other Backward Classes (OBCs), General/Others.

The SCs have been discriminated against and abused by castes situated higher up the caste hierarchy for centuries (Barman, 2020; Krishnan, 2005; Pankaj, 2019; Sankaran et al., 2017). The Central and States governments have taken a variety of initiatives and implemented regulations and laws over the past decades to curb and eliminate caste-based discrimination, exploitation, and violence against them (protective arrangements) and improve their lives by giving them quotas or reservations in higher education and employment (affirmative actions) (Chalam, 2015; Kapoor, 2007; The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989; Waughray, 2010). However, caste-based violence, persecution, and discrimination, particularly against SCs, are still pervasive throughout much of the nation (Khubchandani et al., 2018; Krishnan, 2005). Caste-based violence and discrimination affect SC women just as much as SC men. Due to ingrained patriarchal traditions in Indian society, SC women frequently experience violence, discrimination, and abuse not only from men from upper castes but also from their own caste (mostly partner or spouse) (Ackerson & Subramanian, 2008; Krishnan, 2005).

Domestic violence by a partner or husband can take many forms, including verbal, physical, psychological, and sexual abuse (Jewkes, 2002; Warmling, Lindner, & Coelho, 2017). It can have serious consequences for women’s physical and mental health. In the past, several researchers have studied the issue of IPV in India. Significant variations have been noted in the IPV prevalence across socioeconomic and demographic characteristics, including caste (Ackerson, Kawachi, Barbeau, & Subramanian, 2008; Ackerson & Subramanian, 2008; Biswas, 2017; Mahapatro, Gupta, & Gupta, 2012; Rashada & Sharaf, 2016; Speizer & Pearson, 2011; Stephenson, Winter, & Hindin, 2013; Weitzman, 2014). Some researchers in the past have noted wide disparity in the prevalence of IPV between SC and General population (Dasgupta et al., 2018; Har et al., 2018; Krishnan, 2005; Raj et al., 2018; Weitzman, 2014). According to the most recent National Family Health Survey (NFHS-5), there is still a considerable gap in the prevalence of IPV between these two groups, with 37.3% of SC women reporting having experienced IPV, which is much higher than women in the ‘Other’ or ‘General’ group (24.2%) (see Fig. 1) (International Institute for Population Sciences and ICF, 2022).

Despite the glaring SC-General gap in the prevalence of IPV against women, none of the previous studies have made any attempt to explain why this gap exists and how it can be reduced. In order to formulate

appropriate, context-relevant targeted programs and policy responses to reduce the gap in IPV between these two social groups, we must have the relative contributions of the determinants that explain the SC-General gap in IPV in India. The present study, therefore, aims to quantify the respective contributions of the factors that explain the gap in the prevalence of IPV between SC and General category women in India.

## 2. Data and methods

### 2.1. Data source

The National Family Health Survey (NFHS) fifth-round data have been used in this study (2019–2021). The NFHS is a set of nationally representative cross-sectional surveys that collect data on a variety of demographic, socio-economic, mother and child welfare, reproductive health, and family planning issues. NFHS-5 was conducted by Ministry of Health and Family Welfare of the Government of India. The nodal surveying agency was the International Institute of Population Sciences (IIPS) (International Institute for Population Sciences and ICF, 2022). Using a two-stage stratified sampling approach, NFHS-5 interviewed 724,115 women aged 15-49 from 636,699 households with a 97% response rate (International Institute for Population Sciences and ICF, 2022). Among them, 72,320 women from all over India were chosen for the domestic violence module. A total of 10,168 married SC women and 9695 married General women form the basis of this study (Fig. 2).

### 2.2. Dependent variable

The outcome variable is whether or not the women have been ever exposed to IPV. Women were asked if they had ever suffered any of the mentioned acts of physical, sexual, or emotional violence perpetrated by

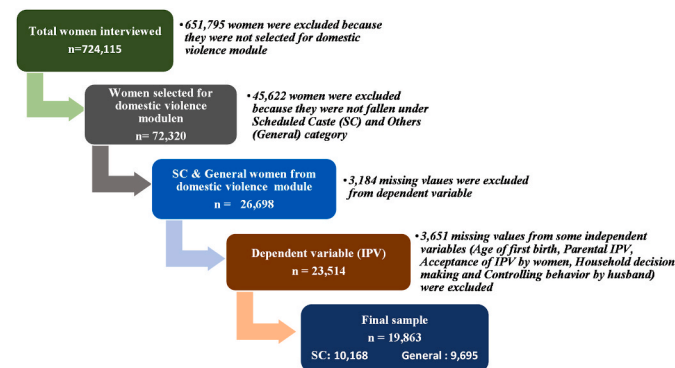


Fig. 2. Selection procedure of the study sample from the NFHS-5 data.

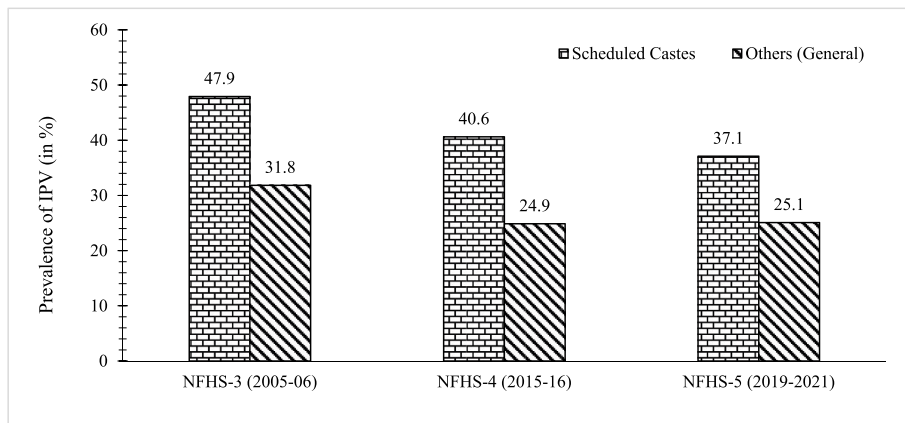


Fig. 1. Trends in IPV prevalence among SC and General women between 2005 and 06, 2015–16, and 2019–21.

their existing or former husband/partner, and if they hadn't, they were categorized as never having experienced IPV. In the NFHS-5, there were 13 questions about IPV. Seven of the 13 questions dealt with physical violence, four with sexual violence, and the remaining three were intended to elicit information on emotional violence. The original forms of these questions, include "Does your husband ever push you, shake you, or throw something at you?", "Twist your arm or pull your hair?", "Slap you?", "Punch you with his fist or with something that could hurt you?", "Kick you, drag you or beat you up?", "Try to choke you or burn you on purpose?", "Threaten or attack you with a knife, gun, or any other weapon?", "Physically force you to have sexual intercourse with him even when you did not want to?", "Physically force you to perform any other sexual acts you did not want to?", "Force you with threats or in any other way to perform sexual acts you did not want to?", "Ever been humiliated?", "Ever been threatened with harm?", "Ever been insulted or made to feel bad?" Those who answered they had been exposed to at least one kind of IPV mentioned above were coded as '1', while those who answered they had not been subjected to any kind of IPV were coded as '0'.

### 2.3. Independent variables

Many prior studies in India and elsewhere have linked IPV to a variety of socioeconomic and biodemographic factors (Ackerson et al., 2008; Burelomova, Gulina, & Tikhomandritskaya, 2018; Chowdhury, Singh, Kasemi, & Chakrabarty, 2022; Hassan et al., 2004; Speizer & Pearson, 2011; Stephenson et al., 2013; Svec & Andic, 2018; Weitzman, 2014). Keeping in mind various theories and frameworks presented in the past, such as social disorganization theory, strain theory, social learning theory, exchange and social control theory, resource theory, and multifactorial model of IPV, a range of factors have been considered for this study including, wealth index (a proxy for household income), woman education level, working status of women, age at first birth, parental IPV, acceptance of IPV by women, husband's education level, permission to seek medical help for self, number of currently alive children, consumption of alcohol by husband and regions of India (Finkelhor, Gelles, Hotaling, & Strauss, 1983; Gelles, 1983; Goode, 1971; Lawson, 2012). Detailed information about these independent variables is given in Appendix-B.

### 2.4. Statistical analysis

Bivariate analysis was used to examine the differences in the prevalence of IPV between SC and the General population. In order to decompose the gap in IPV between the groups, we used a modified version of Blinder-Oaxaca (B-O) decomposition suitable for binary outcomes (Fairlie, 1999). It has been widely used in decomposing health inequalities.

Originally, the B-O decomposition was proposed for continuous variables and utilized linear regression models. The B-O method can be applied to explain inequalities in health outcome across any two group. These two could be based on race, gender, social status, poverty, time, geography, and so on. In the present study, the two groups, SC and General are based on caste. Using B-O methods, the inequality or gap between two group in any outcomes can be decomposed into two components. The first component is that part of the gap that is due to differences in the mean values of the independent variable between the two groups. The second represents the rest of inequality that not explained by such differences. This method, however, is ineffective when the outcome variable is binary, as in our case. Therefore, to decompose the gap in IPV prevalence between SC and General groups, we employed the 'fairlie' package in Stata-16 to conduct this decomposition analysis. Appendix-A discusses this decomposition method in detail.

## 3. Results

### 3.1. Sample characteristics

Table 1 shows the sample distribution for both SC and General women. A higher number of SC women belonged to the poorest quintile than General women. On the other hand, the proportion of women belonging to the richest quintile was almost thrice higher among General women than SC women. SC women's education levels were likewise

**Table 1**  
Sample characteristics of Scheduled Caste and General women.

Variables	SC (n = 10,168)		General (n = 9695)	
	Frequency	%	Frequency	%
<b>IPV</b>				
No	6403	63.0	7334	75.7
Yes	3765	37.0	2361	24.4
<b>Individual characteristics</b>				
<b>Wealth index</b>				
Poorest	2620	25.8	867	8.9
Poorer	2495	24.5	1551	16.0
Middle	2240	22.0	2018	20.8
Richer	1793	17.6	2254	23.3
Richest	1020	10.0	3004	31.0
<b>Woman education level</b>				
Illiterate	3573	35.1	1629	16.8
Primary	1573	15.5	1163	12.0
Secondary	4284	42.1	5200	53.6
Higher	738	7.3	1703	17.6
<b>Working status of women</b>				
No	6859	67.5	7446	76.8
Yes	3309	32.6	2249	23.2
<b>Age at first birth (years)</b>				
<18	2522	24.8	1801	18.6
18–25	6835	67.2	6641	68.5
>25	811	8.0	1253	12.9
<b>Parental IPV</b>				
No	7860	77.3	8306	85.7
Yes	2308	22.7	1389	14.3
<b>Relationship characteristics</b>				
<b>Acceptance of IPV by women</b>				
No	5711	56.2	6212	64.1
Yes	4457	43.8	3483	35.9
<b>Seeking medical help for self</b>				
No problem	6597	64.9	6773	69.9
Big problem	1279	12.6	1016	10.5
Not a big problem	2292	22.5	1906	19.7
<b>Number of currently alive children</b>				
0	62	0.6	15	0.2
1	2105	20.7	2332	24.1
2	3833	37.7	4465	46.1
3	2333	22.9	1746	18.0
4+	1836	18.1	1136	11.7
<b>Household decision making</b>				
Independent	316	3.1	279	2.9
Jointly	6463	63.6	6212	64.1
Dependent	3390	33.3	3204	33.1
<b>Controlling behavior by husband</b>				
No	5240	51.5	5877	60.6
Yes	4928	48.5	3818	39.4
<b>Consumption of alcohol by husband</b>				
No	7100	69.8	8111	83.7
Yes	3068	30.2	1584	16.3
<b>Locational characteristics</b>				
<b>Regions of India</b>				
Northern	913	9.0	1234	12.7
Central	1224	12.0	850	8.8
Eastern	3726	36.7	2787	28.8
Western	1681	16.5	3026	31.2
Southern	2325	22.9	1480	15.3
North-eastern	299	2.9	318	3.3

Notes: All % are weighted.

dissatisfactory. About one third of SC women were illiterate as compared to one sixth of General women. On the others, the proportion of women with higher education was higher among General women. Childbearing starts relatively early among SC compared with the General women. A little over one-fifth of SC women reported to have experienced parental IPV, which is relatively higher than General women. IPV was accepted by more than two-fifths of SC women, and they believed it was justifiable. In contrast, nearly 36% General women accepted IPV. The proportion of women with 4 or more children was slightly higher among SC women than among General women (18.1% versus 11.7%). Almost half of the SC women reported that they were controlled by their husbands. In contrast, only two-fifths of General women reported that they were controlled by their husbands. Nearly 30% SC women reported that their husband was alcoholic, which is almost double that of General women. The proportion of SC population was higher than General women in the Central, Eastern, and Southern regions of India, whereas, the Western region had higher a proportion of General women than SC women.

### 3.2. Prevalence of different type of IPV among SC and general women

Overall prevalence of any IPV among SC and General women was 37% and 24% (see Fig. 3). Physical violence was most prevalent form of IPV in both groups, followed by emotional and sexual violence. The prevalence of physical IPV among SC women was one and half times higher than General women. Similar gap in the prevalence of IPV was noticed in case of emotional and sexual violence. Sexual violence was reported by 6.6% SC women and 4.6% General women.

### 3.3. Result of the SC-General gap decomposition

The gap in IPV between the two social groups could be due to a number of factors. The motive of the study was to understand which factors could be causing this gap and what their relative contributions are in creating this gap. To accomplish this objective, we utilized regression-based Oaxaca-Blinder decomposition approach.

As a part of this decomposition, we first applied binary logistic regression analysis to look at the factors that influence IPV for SC and General women. Then using coefficients from this regression, we conducted a decomposition analysis to tease out the contribution of various factors in causing the gap in IPV between SC and General women. The results of regression analysis have not been discussed here, although they are available in Appendix-C.

Table 2 provides the summary of the decomposition analysis. The probability of IPV among SC and General women was 0.370 and 0.244, respectively. The gap between the two groups, i.e., 0.127, was then

**Table 2**

Summary results of Fairlie decomposition showing the mean differences in IPV between SC and General women in India, 2019–21.

	IPV
Mean prediction among SC women	0.370
Mean prediction among general women	0.244
Raw differentials	0.127
Total explained	0.106
% Explained	83.46
% Unexplained	16.54

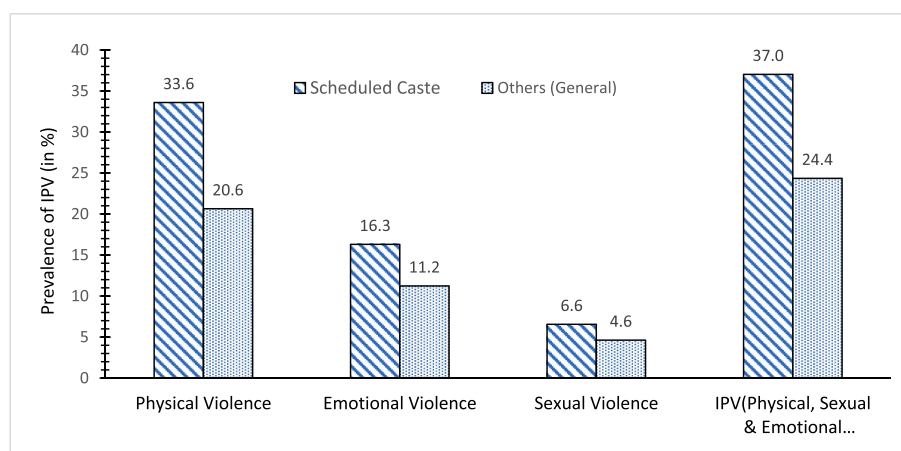
decomposed. The results revealed that about 84% of this gap in the prevalence of IPV between SC and General population was explained by the predictors included in the decomposition analysis. Even among the explained gap, about 70–80% of the gap in IPV prevalence was explained by the group differences in wealth status, parental IPV, controlling behavior of husband and, consumption of alcohol by husbands. The rest of the gap in IPV (16%) which is also known as the unexplained gap might be linked to other factors that could not include in the analysis due to their unavailability in the data set.

Table 3 presents the details of decomposition analysis of the gap in the prevalence of IPV between SC and General women (also see Fig. 4). A positive contribution of a variable indicates that particular variable is widening the gap in IPV between SC and General women. The converse holds true for a negative contribution.

Results revealed that alcohol was the main contributor explaining about 26.3% of the gap in IPV between SC and General women. Wealth index was another important contributor explaining about 24.5% of the gap in IPV. Controlling behavior by husband also explained about 24% of the gap in IPV between SC and General women. About 15.9% of the gap was explained by parental IPV. The number of currently alive children, acceptance of IPV by women, and working status of women contributed 3–5% of the gap in IPV between the two groups. Women's education, age at first birth, permission to seek medical help for self, and household decision making turned out to be statistically insignificant in the decomposition model. Similarly, region of residence had positive but relatively insignificant contribution towards the gap.

## 4. Discussion

As per the NFHS-5 national report, SC women experience comparatively higher prevalence of IPV than women belonging to 'General' category. From a policy standpoint, determining the factors behind this disparity in the prevalence of IPV between these two social groups is crucial. This higher prevalence of IPV among the SC women is quite consistent with prior national and sub-national studies conducted in the



**Fig. 3.** Prevalence of different types of IPV among SC and General women in India, 2019-21.



**Table 3**  
Fairlie decomposition of average gap on IPV between SC and General women in India, 2019–21.

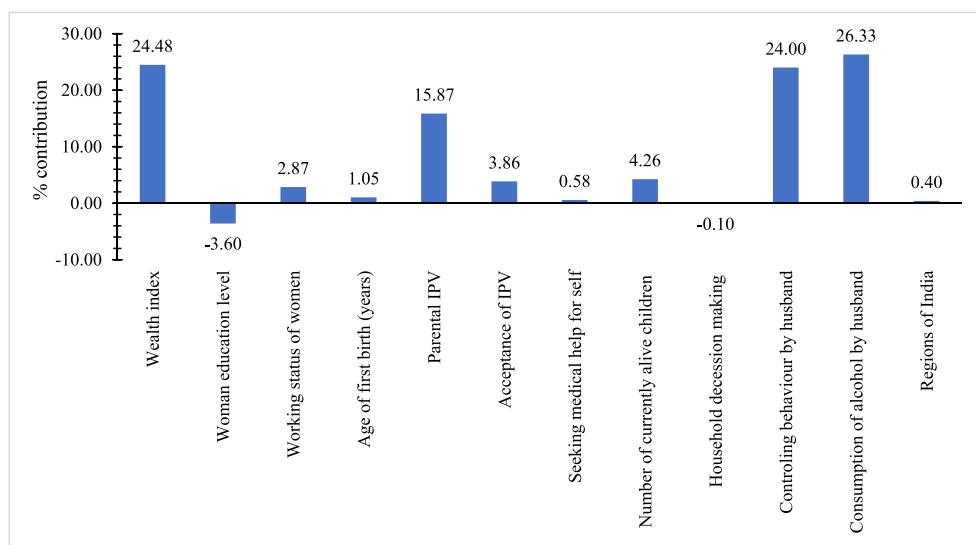
Variables	Coefficient	P value	CI (95%)		% contribution
			Lower	Upper	
Wealth index	0.0259	0.000	0.018	0.034	24.48
Woman education level	-0.0038	0.252	-0.010	0.003	-3.60
Working status of women	0.0030	0.009	0.001	0.005	2.87
Age at first birth (years)	0.0011	0.295	-0.001	0.003	1.05
Parental IPV	0.0168	0.000	0.014	0.019	15.87
Acceptance of IPV by women	0.0041	0.000	0.003	0.006	3.86
Seeking medical help for self	0.0006	0.064	0.000	0.001	0.58
Number of currently alive children	0.0045	0.000	0.002	0.007	4.26
Household decision making	-0.0001	0.279	0.000	0.000	-0.10
Controlling behavior by husband	0.0254	0.000	0.023	0.028	24.00
Consumption of alcohol by husband	0.0278	0.000	0.023	0.032	26.33
Regions of India	0.0004	0.023	0.000	0.001	0.40
<b>Total explained</b>	<b>0.1058</b>				<b>100.00</b>

country (Ackerson & Subramanian, 2008; Dasgupta et al., 2018; Ragan, Iyengar, & Wurtz, 2015). SCs have a greater prevalence of IPV because they are at a disadvantage across almost all determinants, which increases their likelihood of experiencing IPV. This study also quantifies the contribution of the variables that explain the gap in IPV between SC and General women, such as household wealth, parental IPV, husband's controlling behavior, and husband's alcohol consumption. The study accomplishes this by decomposing the average gap in IPV between SC and General women using Fairlie's decomposition technique. This approach is used to assess how much of the gap is due to differences in determinant distribution and how much is due to differences in the impact of determinants.

According to the findings, the majority of the gap is related to variations in the distribution of alcohol consumption by husband, family wealth, controlling behavior by husband, and parental IPV. Given the fact that 30% of SC women's husbands were alcoholic, it is not surprising that the husband's alcohol intake is the most significant factor in widening the gap of IPV between SC and General women. The effect of alcohol consumption in IPV is well documented (Chaurasia, Debnath, Srivastava, & Purkayastha, 2021; Houston et al., 2014; Thomas & Guddattu, 2020; Weitzman, 2014). Alcohol intake has been linked to aggression against women, especially excessive drinking and ingesting large amounts of alcohol on a single occasion (Dasgupta et al., 2018; Foran & O'Leary, 2008). It has an impact on a drinker's intellectual cognitive and problem-solving abilities, as well as limiting their focus

and boosting their readiness to take risks, particularly among male drinkers (Berg et al., 2010; Dasgupta et al., 2018; Leonard, 2005). Male partners who consume alcohol may be unable to settle conflicts constructively and may act aggressively or violently as a result of these impacts (Wilson, Graham, & Taft, 2014). Some alcoholics may purposefully attack or brutally attack an intimate partner, assuming that their actions would be excused since they were inebriated at the time (Wilson et al., 2014). Since alcohol consumption is a major contributor to IPV against women, and the government should find ways to reduce it consumption.

Another major factor in the gap of IPV between SC and General women is household wealth as measured by wealth index. Table 1 shows that half of SC women belong to the poor category (bottom two quintiles). The association of household economic status with exposure to IPV is well documented (Biswas, 2017; Chaurasia et al., 2021; Dasgupta et al., 2018; Har et al., 2018; Thomas & Guddattu, 2020). There is evidence that many of the stresses associated with IPV are more frequent in poor households and they are more prone than rich counterparts to experience financial troubles (Ackerson & Subramanian, 2008; S. Das et al., 2013; Rashada, Shoukry, Sharaf, & Fathy, 2016). According to the family stress model, economic disadvantages raise the financial burden on caregivers and lead to discontent, wrath, and mental distress (Conger, Conger, & Martin, 2010; Foran & O'Leary, 2008; Wilson et al., 2014). As a result of these feelings, IPV is more likely to occur more frequently in poor households. On the contrary, women in wealthy households



**Fig. 4.** Result of Fairlie decomposition showing percentage contribution of each covariate to the gap in IPV between SC and General women, India, 2019–21.

generally have more resources to spend on making their lives easier and smoother, thus they are less likely to be exposed to IPV (Angaw, Melesse, Geremew, & Tesema, 2021; Har et al., 2018; Speizer & Pearson, 2011). As half of the SC women in India belong to the poorest and poor quintiles, more focus has to be directed towards improving the economic condition of SC women to reduce the gap in IPV between SC and General women.

Results reveal that the controlling behavior by husband is contributing a huge gap (24%) in IPV between SC and General women. Controlling behavior by husband means husband has control issues, for example, he is jealous if she talks to other men, accuses her of unfaithfulness, refuses to let her meet her friends, tries to limit her contact with family, insists on knowing where she is, and doesn't trust her with money. Table 1 shows that almost half of the SC women reported about the controlling behavior by their husbands. After adjusting for possible confounders, controlling behavior by husband was associated with a four-fold higher likelihood of IPV (Appendix C). Previous studies have also showed that controlling behavior by husband is strongly associated with a higher likelihood of physical and sexual violence (Antai, 2011). Control in intimate partner relationships can be seen of as a problem in which one partner (usually the husband) uses threats and emotional abuse to keep the other partner under control (commonly the wife). Being controlled by an intimate partner and using emotional threats are both harmful behaviors that have a negative impact on one's well-being. As half of the SC women reported of being controlled thus there is a need for a proactive, integrated approach to economically empower SC women while also promoting social conditions that are intolerant of controlling behavior and IPV, shattering the conventions that keep women vulnerable to violence in society.

Parental IPV is comparatively high among SC women (22.7%) than among General women (14.3%). Parental IPV contributes around 16% of gap in IPV between these two social groups. Women who grew up in a violent domestic environment and witnessed their parents indulge in IPV are more likely to accept their partners' violent conduct, mimic their parents' IPV traits, and use violence as a negotiating tactic in their relationships (Ler, Sivakami, & Monárrez-Espino, 2017). Further research is needed to understand as to why parental IPV is higher among the SC population than among the General population.

Number of currently alive children is contributing about 4% of gap in IPV. Comparatively higher number of currently alive children (4+ children) found among SC women than General women. A higher number of children is sometimes suggestive of a strong preference for a son. The number of children in the family grows in order to fulfil the strong desire for a son. Women are specifically chastised and tormented for having a large number of female offspring. Number of currently alive children also has an impact on a family's expenditures. Infant care, schooling, health care, and other expenses are all greater for families with more children. This frequently results in financial difficulty, family conflict, and violence against women (Chowdhury, Singh, Kasemi, & Chakrabarty, 2022; T. Das & Basu Roy, 2020; Leonardsson & San Sebastian, 2017).

Working women account for around 3% of the gap in IPV. This might be because of men's instinctive fear that obtaining a job will push women to break male-dominated Indian cultural norms, in which case harassment is seen as the only way to gain and maintain power (Biswas, 2017). SC women are more accepting of IPV as justification than General women which account for around 4% of the gap in IPV. Accepting IPV means enduring violence in silence. It is not surprising that women who accept IPV without objection have a greater likelihood of IPV.

In the past, the Government of India has implemented a number of policies, legislation, and initiatives to combat intimate partner violence in the country (Patra, Prakash, Patra, & Khanna, 2018). Domestic violence was recognized as a criminal offence in India in 1983. However, the Protection of Women from Domestic Violence Act (PWDVA) was passed in Parliament much later in 2005 (The Protection of Women from Domestic Violence Act, 2005). It allows women to seek court injunctions

and protective orders, as well as criminal penalties such as jail and fines (Hornbeck, Johnson, LaGrotta, & Sellman, 2006). Through All Women Police Stations, Family Counseling Cells, Family Courts, Lok Adalats, and Mahila Lok Adalats, the government has made several attempts to make legal and reconciliation services more available to women (International Center for Research on Women, 1999). But the prevalence of IPV is still high especially among the socially disadvantaged groups, such as SCs. Lack of awareness about the PWDVA among women, poor access to judiciary, archaic attitude of various agencies/personnel with providing relief to victims of domestic violence such as judges, police officers, protection officers, and councilors, and lack of infrastructure and cumbersome procedures are some of the issues need addressing for proper implementation of this Law. It is important that people are made aware of the existing laws regarding issues such as sexual harassment, dowry demands, domestic violence, and atrocities committed against SCs and STs. Community development programs, women's self-help organizations, and Social Justice Committees formed under *Panchayati Raj* are among avenues that should be explored in an effort to combat the issue of domestic violence experienced by women.

An effective response to violence against women must be multi-sectoral, addressing the immediate practical needs of women who are being abused and providing long-term follow-up and assistance. The findings of this study suggest that the gap in the prevalence of IPV between General and SC women can be reduced substantially by raising the economic status of SC women. However, this is possible only in the long term. The federal and state governments should therefore focus on other important factors that could be tweaked in the short term, for example, alcohol consumption. It is suggested that the Central as well as the State governments should act decisively to reduce excessive and careless alcohol use. Many states have put in place total prohibitions on drinking in order to accomplish this. It is unclear, nevertheless, whether these broad restrictions have been effective in producing the anticipated outcomes. There are fundamentally opposed perspectives on outright banning alcohol. While some see it as vital to keep crime and violence in control and make society safer for women and children, others see it as a restriction on personal freedom. It has also been claimed that focusing on the treatment and rehabilitation of alcohol addicts—those who consume alcohol excessively and irresponsibly—rather than outright banning the substance would be a more effective approach without violating people's rights.

Substantial contributions from parental IPV and controlling behavior of husband suggest that a special emphasis should be placed on changing cultural norms and attitudes that encourage the acceptance of violence against women, undermining women's ability to fully exercise their human rights and freedoms. Short-term interventions to prevent IPV against women might include information dissemination and raising awareness among women about the Law through mass media campaigns. Mass media could also be used to change regressive sociocultural norms and attitudes that promote violence against women.

This study has some limitations which the reader must be made aware of. To begin with, the data on intimate partner violence in the NFHS-5 is self-reported. Even though the NFHS-5 made efforts to deal with the problem of false reporting of IPV, there may still be some bias in the data on IPV because of how sensitive the topic is, people's inability to remember relevant information, the stigma of IPV, and the social desirability bias. Second, the association between dependent and independent factors in this study cannot necessarily be taken as causation because the data are from a cross-sectional survey. Third, this study could include only those variables that were available in the NFHS-5 dataset, which means we may have missed some variables and this may have caused what is known as omitted variable bias. Another limitation of the study is that the dependent variable used in the analysis is dichotomous (ever/never), which precludes for fine distinctions between various kinds of IPV. Future studies should examine how contribution of variables may vary depending on whether the IPV is physical, emotional, or sexual.

## 5. Conclusion

In conclusion, while the focus should be on reducing the overall prevalence of IPV, SC women need special attention in this regard. A substantial part of the gap in IPV between SC and General women is explained by differences in husbands' alcohol consumption, wealth index, controlling behavior by husband and parental IPV. The government should design appropriate interventions and programs in light of the study findings. Interventions aimed at reducing alcoholism should be emphasized. Through media campaigns, the public should be made aware of domestic violence legislation, and attempts should be made to alter outdated societal beliefs and behaviours that support violence against women.

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### Authors' contribution

**Sourav Chowdhury:** Software, Formal analysis, Data Curation, Writing - Original Draft, Writing - Review & Editing.

**Aditya Singh:** Conceptualization, Methodology, Supervision, Writing - Review.

### List of abbreviations

IPV	Intimate Partner Violence
SC	Scheduled Caste
NFHS	National Family Health Survey

## Appendix

### Appendix-A

Fairlie's Oaxaca-Blinder decomposition modified for binary outcomes.

This technique decomposes inter-group differences in the mean level of an outcome into those caused by differences in observable characteristics across groups and those caused by differences in immeasurable characteristics of groups (Fairlie, 1999; Kumar & Singh, 2016).

The decomposition for a non-linear equation  $y = F(x\beta)$  can be written as:

$$\bar{y}^o - \bar{y}^s = \left[ \sum_{i=1}^{N^o} \frac{F(x_i^o \beta^o)}{N^o} - \sum_{i=1}^{N^s} \frac{F(x_i^s \beta^o)}{N^s} \right] + \left[ \sum_{i=1}^{N^o} \frac{F(x_i^s \beta^o)}{N^s} - \sum_{i=1}^{N^s} \frac{F(x_i^s \beta^s)}{N^s} \right]$$

where  $N^j$  is the sample size for interest group  $j$ ,  $y^j$  is the average probability of the binary outcome of the interest group  $j$  and  $F$  is the cumulative distribution function from the logistic distribution. Here, superscripts  $O$  and  $S$  stand for 'SC' and 'General'. The first term in brackets in the equation above represents the part of the gap between social groups due to group differences in distributions of entire set of independent variables, and the second term represents the part due to differences in the group processes determining levels of  $y$ . The second term also captures the portion of the group gap due to group differences in immeasurable or unobserved endowments. To find the total contribution, we need to calculate two sets of predicted probabilities by SC and the General and take the difference between the average values of the two. However, obtaining the contribution of a specific covariate is not straightforward. As the sample sizes of the two groups are not the same, we need to carry out a regression for pooled data (SC and the General population together) and calculate the predicted probabilities, for each SC and the General population observation in the sample. Since the General population sample is bigger than SC sample, a random subsample of the General population equal in size to the full SC sample should be drawn. Each observation in the General population sample and full SC sample is then separately ranked by predicted probabilities and matched by their respective rankings. This procedure matches the SC women who have characteristics placing them at the bottom (top) of their distribution with women from General population who have characteristics placing them at the bottom (top) of their distribution. Now assume that  $N^1 = N^2$  and a natural one-to-one matching of SC and General population observations exist. Also assume that there are two independent variables to explain the social gap in IPV.

Using coefficient estimates from a logit regression for a pooled sample, the independent contribution of  $x_1$  to the group gap can then be expressed as:

**Nuruzzaman Kasemi and Mahashweta Chakrabarty:** Validation, Writing - Review & Editing.

### Ethics approval and consent to participate

The present study used secondary data which is available in the public domain. The dataset has no identifiable information of the survey participants. Therefore, no ethical approval is required for conducting this study.

### Availability of data and materials

The dataset analyzed during the current study is available in the Demographic and Health Surveys (DHS) repository, <https://dhsprogram.com/data/available-datasets.cfm> and can be obtained for free by sending an online request.

### Declaration of competing interest

The authors declare no competing interests.

### Data availability

Data will be made available on request.

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None.

$$\frac{1}{N^s} \sum_{i=1}^{N^s} F(\hat{\alpha} + x_{i1}^o \hat{\beta}_1^* + x_{i2}^o \hat{\beta}_2^*) - F(\hat{\alpha} + x_{i1}^s \hat{\beta}_1^* + x_{i2}^s \hat{\beta}_2^*)$$

Similarly, the gap due to  $x_2$  can be expressed as:

$$\frac{1}{N^s} \sum_{i=1}^{N^s} F(\hat{\alpha} + x_{i1}^s \hat{\beta}_1^* + x_{i2}^o \hat{\beta}_2^*) - F(\hat{\alpha} + x_{i1}^s \hat{\beta}_1^* + x_{i2}^s \hat{\beta}_2^*)$$

The contribution of each variable to the gap is thus equal to the change in the average predicted probability from replacing SC distribution with General population distribution while holding the distributions of the other variables constant. However, the assumption of equal sample size is rarely true in the real world. Since the General population sample is substantially larger, a large number of random subsamples of the women of the General population (equal size to total SC) are drawn to match each of them to the SC sample and calculate separate decomposition. Finally, the mean value of all these separate decomposition estimates is used as an approximate decomposition for the entire General population sample. We used 500 replications of such decomposition and presented the average result. It must be noted here that increasing the number of replications increases the stability of the result.

Appendix-B

Information of Independent variables.

Independent Variables	Description	Coding
<b>Wealth Index</b>	Wealth Index/Quintiles is proxy measure of income or living standard of a household. The NFHS does not collect data on household income, hence this index is used. It is calculated using readily available information on a household’s possession of specific items, including bicycles and televisions, as well as information on the materials used in the building of houses and the availability of safe water and sanitation facilities. Each household gets a score based on the number and type of household items they have. On this basis of this score households are ranked in ascending or descending order and then divided into quintiles (five equal parts). Wealth Index has five categories: poorest (bottom 20%), poorer, middle, richer, richest (top 20%) (Chowdhury, Singh, Kasemi, Chakrabarty, & Singh, 2022).	Poorest (0), Poorer (1), Middle (2), Richer (3), Richest (4)
<b>Women education level</b>	Women’s education is classified into four categories depending on years of schooling: illiterate = no years of schooling; primary = 1–5 years of schooling; secondary = 6–10 years of schooling; and above secondary = more than 10 years of schooling.	Illiterate (0), Primary (1), Secondary (2), Higher (3)
<b>Working status of women</b>	Working status of women is defined by whether women has been engaged in any economic activity or not in the last 12 months.	No (0), Yes (1)
<b>Age at first birth (years)</b>	Age at women during her first birth. This variable is classified into three categories: <18 age; 18–25 age; >25 age	<18 (1), 18–25(2), >25(3)
<b>Parental IPV</b>	Whether the respondent ever saw their parents engage in IPV?	No (0), Yes (1)
<b>Acceptance of IPV by women</b>	Women were asked In her opinion, is a husband justified in hitting or beating her in the following situations: If she goes out without telling him? If she neglects the house or the children? If she argues with him? If she refuses to have sex with him? If she doesn’t cook food properly? If he suspects her of being unfaithful? If she shows disrespect for in-laws?	No (0), Yes (1)
<b>Seeking medical help for self</b>	NFHS-5 asks women, when you are unwell and need medical counsel or treatment, is ‘getting permission to go’ a big problem, not a big problem, or no problem? This variable assesses how difficult it is for women to get permission to leave the house for medical treatment or a doctor’s consultation.	No problem (1) Big problem (2), Not a big problem (3)
<b>Number of currently alive children</b>	The number of children ever born to a women. It is classified into five categories: women with no children; single-child women; women with two children; women with three children; women with four or more than four children.	0 (0), 1 (1), 2 (2), 3 (3), 4+ (4)
<b>Household decision making</b>	Who makes the decision about respondent’s healthcare, major household expenditures, her visiting family or friends, and expenditure of husband’s earnings. This variable has three categories: Whether decisions can be made independently; jointly, and dependent.	Independent (1), Jointly dependent (2), Dependent (3)
<b>Controlling behavior by husband</b>	Controlling behavior by husband was assessed using a composite dichotomous “yes” or “no” variable comprised of responses to six questions about if a husband has control issues, such as if he is jealous if she talks to other men, accuses her of unfaithfulness, refuses to let her meet her friends, tries to limit her contact with family, insists on knowing where she is, and doesn’t trust her with money.	No (0), Yes (1)
<b>Consumption of alcohol by husband</b>	Consumption of alcohol means whether the respondents’ husbands are used to drink alcohol or not.	No (0), Yes (1)
<b>Regions of India</b>	To construct this variable, Indian states are grouped into 6 categories. ‘Northern’ (1) includes Jammu & Kashmir, Ladakh, Himachal Pradesh, Punjab, Rajasthan, Haryana, Uttarakhand, Chandigarh (Union Territory - UT) and Delhi; ‘central’ (2) includes the states of Uttar Pradesh, Madhya Pradesh and Chhattisgarh; ‘eastern’ (3) includes the states of Bihar, Jharkhand, West Bengal and Odisha; ‘western’ (4) includes the states of Gujarat, Maharashtra, Goa and UTs of Dadra & Nagar Haveli and Daman & Diu; ‘southern’ (5) includes the states of Kerala, Karnataka, Andhra Pradesh, Tamil Nadu and the UTs of Andaman & Nicobar Islands, Pondichery and Lakshadweep; ‘north-eastern’ (6) includes the states of Sikkim, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura, and Arunachal Pradesh.	Northern (1), Central (2), Eastern (3), Western (4), Southern (5), North-Easren (6)

Appendix-C

Logistic regression results showing association between intimate partner violence and its correlates among SC and General women in India, 2019-



21.

Variables	AOR		
	SC	General	Combined
<b>Social groups</b>			
Scheduled Castes (SCs)	NA	NA	1.16*
General®			
<b>Wealth index</b>			
Poorest	1.16	2.20**	1.48*
Poorer	1.21	1.58*	1.42*
Middle	1.20	1.24	1.27
Richer	1.03	0.88	0.99
Richest®			
<b>Woman education level</b>			
Illiterate®			
Primary	0.93	1.12	1.00
Secondary	1.11	1.29	1.19
Higher	1.13	0.91	0.97
<b>Working status of women</b>			
No®			
Yes	1.24*	1.36*	1.28**
<b>Age at first birth (years)</b>			
<18®			
18–25	0.97	0.79	0.90
>25	1.00	0.83	0.94
<b>Parental IPV</b>			
No®			
Yes	2.76**	3.09**	2.89**
<b>Acceptance of IPV by women</b>			
No®			
Yes	1.52**	1.51**	1.51**
<b>Seeking medical help for self</b>			
No problem®			
Big problem	1.25*	1.23	1.24*
Not a big problem	1.12	1.20	1.17
<b>Number of currently alive children</b>			
0	0.35*	0.66	0.41
1	0.62**	0.70	0.63**
2	0.67**	0.82	0.72**
3	0.82	1.12	0.92
4+®			
<b>Household decision making</b>			
Independent	1.67*	1.35	1.50*
Jointly	0.78**	0.74**	0.76**
Dependent®			
<b>Controlling behavior by husband</b>			
No®			
Yes	4.07**	4.24**	4.13**
<b>Consumption of alcohol by husband</b>			
No®			
Yes	2.62**	2.26**	2.45**
<b>Regions of India</b>			
Northern®			
Central	1.66**	1.80**	1.66**
Eastern	1.81**	1.53**	1.67**
Western	1.29	1.11	1.20
Southern	1.62**	1.38*	1.52**
North-eastern	2.08**	2.11**	2.148**

Notes.

® = Reference category, AOR = Adjusted Odds Ratios.

\*\*p &lt; 0.01, \*p &lt; 0.05.

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