Accepting the unacceptable: Does intimate partner violence shape the tolerance of violence?

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Abstract

I study the causal effect of intimate partner violence (IPV) on victims' tolerance in contexts where outside options are limited. I theoretically show that tolerance may act as a coping mechanism under prolonged abuse. To identify this effect, I exploit the variation in the minimum-legal-drinking-age in India, as a shock to alcohol consumption that likely increases violence and may affect tolerance. I find that while IPV rises when husbands attain the drinking age, this does not immediately affect wives' tolerance. Only prolonged exposure to violence increases victims' tolerance, suggesting that they may normalise violence over time as a coping mechanism.

Keywords: Intimate Partner Violence, Gender Norms, Alcohol regulation
JEL Codes: J12, J16, I15

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1 Introduction

Tolerance towards intimate partner violence is widespread. Globally, 34% of women and 30% of men find intimate partner violence justifiable under certain circumstances (The Demographic and Health Survey (2000-2022) (DHS)).[1] For example, 25% of women and 20% of men deem wife-beating justifiable if the woman neglects her children (DHS).[2] Notably, previous research shows a significant correlation between being a victim or survivor of IPV and accepting such violence (Heise and Kotsadam, 2015; García-Moreno et al., 2005).[3] However, we know little about why this correlation exists in the first place and whether there is causal link between the experience of IPV and the tolerance towards it.

The interplay between harmful behaviours and the attitudes towards them is complex. On the one hand, tolerant attitudes towards harmful practices such as IPV can lead to their normalisation, thereby increasing their prevalence; on the other hand harmful practices and behaviours can reinforce tolerant attitudes, perpetuating a vicious cycle (Akerlof and Kranton, 2000; Alesina et al., 2013).[4] Extensive literature in economics has explored how harmful norms and behaviours originate (Anderson, 2007; Aguilar et al., 2021; Becker, 2022; Ashraf et al., 2020; Bishai and Grossbard, 2010; Corno et al., 2020b,a; Corno and Voena, 2023). However, the factors influencing attitudes towards these harmful practices remain unexplained. This paper aims to fill this gap, analysing the causal relationship between the experience of intimate partner violence and tolerance towards it.

I study whether a harmful behaviour, such as intimate partner violence, has a causal effect on victims' attitudes towards it. Specifically, I investigate whether victims' tolerance towards violence could act as a strategy to reduce the net disutility victims receive from violence in contexts where women have limited outside options (i.e., the cost of divorce is too high). The main challenge in addressing this question is that the experience of violence and the tolerance of violence may mutually reinforce each other. For instance, if women cannot leave the relationship, they might cope with their partners' aggressive behaviours by justifying them (i.e., *coping* mechanism). Conversely, women who a priori find violence acceptable might be at higher risk of being in an abusive relationship (i.e., *risk factor* mechanism). These mechanisms may be intertwined, forming a vicious cycle. As a result of such simultaneity bias, the relationship between violence and its tolerance is endogenous. Moreover,

[1] Own calculations using surveys from 67 countries to calculate the women's indicator and surveys from 57 countries to calculate the men's indicator. For more details, see Tables A7, A8, and Figures A6 and A7 in the Appendix. Figure A8 shows a correlation between the tolerance of violence and the prevalence of IPV at the country level.

[2] The term "wife-beating" is used here to reflect the specific language employed in the Demographic and Health Surveys (DHS)

[3] In this paper, when I refer to victims, I include both victims and survivors of IPV, acknowledging that many women who experienced IPV from their partner do not identify as victims (Ferraro, 2015).

[4] See, among others, (Baldiga, 2014; Bertrand et al., 2015; Bursztyn et al., 2020; Fernández and Fogli, 2009; Giuliano and Nunn, 2021; Jayachandran, 2015; Lowes et al., 2017) for examples of how norms can affect the economic development.

the relationship between experiencing violence and its tolerance may vary depending on whether we consider violence as an isolated event or a recurrent issue.

To understand the nature of attitudes towards intimate partner violence in the short- and long-term, I adapt a model from Anderberg et al. (2023). In this conceptual framework, I study the dynamic relationship between exposure to intimate partner violence and tolerance towards it in a setting where exercising the outside option (i.e., divorce) is extremely costly. The model assumes two types of partners: violent types who are abusive with a high probability and non-violent types who have a small but positive probability of inflicting abuse. Violence is non-strategic, and the probability of abuse is contingent upon the type of partner. When the individual enters the marriage, they do not observe the type of partner they have been matched to. The individual updates their beliefs on whether their partner is a violent type based on the number of *violent signals* they receive. The realised violence decreases the individual's expected utility within the marriage. At each period within the marriage, the individual decides the level of violence to tolerate. Changing their tolerance is costly as it generates disutility and is irreversible. As a result, the individual only changes their tolerance when they have received enough signals of their partner being a violent type. Interpreting these signals and adjusting their perceptions — or updating their Bayesian priors — based on their experience is gradual and requires time. As a result, the tolerance towards violence in the short- and long-term can differ. In particular, the individual's tolerance of violence may increase the longer their exposure to violence.

Empirically, I investigate the causal relationship between violence and its tolerance in the context of India. This context is characterised by some of the highest rates in the world of IPV and tolerance thereof. 31.7% of Indian women report having experienced IPV in their lifetime, and 46% deem domestic violence acceptable in some circumstances (The National Family Health Survey, 2021).[5] Furthermore, the National Family and Health Survey indicates that 97% of these women remain married to their perpetrator, given the rarity and social stigma of divorce in India.[6]

Additionally, alcohol-related abuse is widespread (da Silva Maia et al., 2022). There is a strong positive correlation between experience of abuse and having a partner who drinks (NFHS, 2021). To isolate the causal effect of the experience of violence on tolerance of IPV, I exploit variation in the minimum legal drinking age (MLDA) within and across a subset of Indian states. I combine the variation in the legal drinking age with three waves of The National Family Health Survey (2005–2021) (NFHS). These surveys report information about the prevalence of violence (both over the

[5]Men's tolerance towards wife-beating is still extremely high but lower than women's. 27% of men report that wife-beating is justifiable in some cases (The National Family Health Survey, 2021). Note that these figures differ from those presented in Tables A7 and A8 because in India, respondents are also asked whether wife-beating is acceptable if the wife disrespects the in-laws and if she is unfaithful. In Tables A7 and A8, I use the questions asked in every survey worldwide.

[6]Widows excluded.

lifetime and in the past 12 months), its onset, and the wife's justifiability of violence in different scenarios, the age and the age at marriage (in months) of both partners, as well as the husband's alcohol consumption. The rationale behind leveraging the minimum legal drinking age variation is straightforward. Alcohol consumption often results in altered cognitive and physical capacities, potentially escalating the risk of inflicting violence due to reduced self-regulation (Hustad et al., 2009; Walters et al., 2018). Luca et al. (2015, 2019) explore alcohol bans and the MLDA policies in India, suggesting that men legally permitted to drink are more prone to violence. This paper builds on these studies, showing how alcohol-related policies might influence violence and, subsequently, attitudes towards such behaviour.[7]

To analyse the causal relationship between intimate partner violence and attitudes in the short term, I use a regression discontinuity (RD) design. Specifically, I study the impact of the prevalence of violence in the last 12 months on victims' tolerance of it. I compare observationally equivalent couples who only differ on whether their husband's age is above or below the minimum legal drinking age at the month of the interview (i.e., the running variable is the age of the husband at the time of the interview, in months). I employ both a local non-parametric approach (Calonico et al., 2014) and parametric approaches. The NFHS data collect the respondents' month and year of birth and the month and year individuals were surveyed. This information allows me to compute the individuals' age in months and identify the respondents who are legally allowed to drink at the time of the interview. I restrict the analysis to Indian states where the minimum legal drinking age was 25.[8]

To study the long-term effects of IPV on attitudes, I analyse how the length of exposure to violence changes attitudes towards it. To measure the length of exposure to abuse, I take advantage of a specific question collected by the NFHS. Women who reported having been a victim of IPV are also asked about the timing of the onset of violence in *years after marriage*. I assume that once IPV starts, then it lasts for the whole duration of the marriage.[9] I implement an event-study design that compares couples residing in states with a minimum legal drinking age (MLDA) of 21 to their observationally similar counterparts in states where the MLDA is 25. To ensure comparability, I include fixed effects for marriage duration, year of marriage, the husband's and wife's birth cohorts, and the wife's age. Adding these fixed effects ensures that observationally equivalent couples are compared. Each "event-year" is defined as the years within the marriage when the husband is legally allowed

[7] My first-stage results corroborate and reinforce Luca et al. (2015) and Luca et al. (2019) 's findings by using a different identification strategy and a larger dataset. Moreover, I contribute both theoretically and empirically by separating the short-term and long-term effects of IPV on victims' tolerance of it.

[8] This choice is motivated by two key reasons. Firstly, the average age of marriage for Indian men in the sample is 23.5 years old, ensuring an adequate number of married men below the 25-year cutoff. Secondly, states with an MLDA of 21 (which could provide more statistical power) are not considered since 21 is also the legal age for marriage, posing a potential confounder.

[9] This is a reasonable assumption to make, as IPV is the crime category with the highest rate of recurrent victimisation (Hanmer et al., 1999; Walby and Allen, 2004; Daigle et al., 2008; Flatley et al., 2010; Kuijpers et al., 2012; Amaral et al., 2021; Anderberg et al., 2023).

to drink. The hypothesis is that husbands who are allowed to drink after 21 years old are also more likely to start drinking earlier compared to husbands residing in states where the MLDA is 25. Thus – holding constant the duration of marriage – this would affect the timing of the onset of violence. As a result, the duration of abuse is likely to be higher among couples residing in states where the partners are legally allowed to drink at a younger age. This variation in MLDA across states allows me to investigate how the length of exposure to violence in the long term affects the attitudes towards it.

The short-term RD findings show that men above the minimum legal age are 12.7 percentage points more likely to consume alcohol than their counterparts just below the minimum legal age. As hypothesised, their wives are 4-8 percentage points more likely to have experienced abuse in the past 12 months when compared to wives of men just below the minimum drinking age. Yet, higher violence does not go hand-in-hand with more tolerance in the RD setup. I further exploit an additional source of variation, considering the differences between upper and lower caste, for which the MLDA is less likely to be enforced. While MLDA policies are enforced more stringently in restaurants and bars, primarily frequented by the upper caste, individuals from the lower caste tend to consume cheaper spirits, often brewed at home (Jolad and Ravi, 2022; Kamei, 2014). I find statistically insignificant effects on alcohol consumption, violence and attitudes among couples belonging to the lower caste. In contrast, I document that husbands from the upper caste aged over the MLDA increase alcohol consumption by 23 percentage points, and their wives report a much higher occurrence of IPV (10 percentage points increase in the frequency of violence) compared to couples whose husbands' age is just below the age threshold. Nevertheless, even within the upper caste, where the MLDA's impact on men's alcohol consumption and intimate partner violence is large in magnitude and statistically significant, I still observe no short-term effect on women's attitudes. The RD design captures the instantaneous effect on attitudes by comparing couples whose husbands are just above or below the MLDA. This approach provides a clean estimate of the short-term effect of drinking eligibility on IPV and tolerance. However, the RD design does not speak to the extent to which *exposure* to violence matter. To address this limitation, and in line with the model's prediction that tolerance may increase as a coping mechanism with prolonged exposure, I employ an event study design. This design compares couples in states with different MLDA laws, such as those with a legal drinking age of 21 versus 25. This allows me to isolate how extended exposure to violence shapes IPV tolerance and examine whether, as predicted by the model, prolonged exposure leads to increased tolerance over time.

The long-term (event-study) findings show that in states where MLDA is lower, women report having experienced violence for 4 months more on average. I also find that wives' exposure to violence increases their tolerance towards intimate partner violence (IPV) by up to 0.3 standard devia-

tions four years after the partner has been legally allowed to drink. These findings suggest that the longer the duration of violence, the more likely it is that victims find violence acceptable as a coping mechanism. These results are in line with the model's prediction that prolonged exposure to violence may increase victims' tolerance as a coping mechanism. This interpretation is further supported by short-term findings showing that a higher prevalence of IPV over the past 12 months does not immediately shift women's attitudes towards it. This dynamic – where tolerance increases only after some more prolonged exposure to violence – suggests that victims only adjust their attitudes after having internalised the disutility of IPV, especially in contexts where outside options are limited.

To rule out alternative explanations, I show that access to alcohol does not affect (i) household economic conditions (measured through men's unemployment), (ii) men's social interactions that might shape their attitudes toward IPV, or (iii) migration patterns.

Lastly, I argue that more tolerant attitudes towards IPV may themselves become barriers to help-seeking. In line with this, I show that among women who experience violence, those with higher levels of tolerance are less likely to report abuse or seek assistance from formal institutions (e.g., police, social services). This suggestive evidence highlights the importance of addressing both the direct experience of violence and the normative acceptance of it, as both can perpetuate the cycle of abuse.

The contribution of this paper is threefold. First, I contribute to the literature on intimate partner violence by shedding light on whether there is a causal link between the prevalence of violence and the tolerance of it from the victims' standpoint. Economic research has consistently investigated determinants of intimate partner violence. Cross-cultural research suggests that the prevalence of violence can be explained by historical legacies on gender roles (Tur-Prats, 2019; Alesina et al., 2021), and by current gender norms (González and Rodríguez-Planas, 2020; Heise and Kotsadam, 2015). Furthermore, several studies analysed the impact of labour market conditions and education on domestic abuse (Aizer, 2010; Anderberg et al., 2016; Tur-Prats, 2017; Erten and Keskin, 2021, 2018; Bhalotra et al., 2021, 2025). The literature has further focused on understanding what triggers the prevalence of violence. One interpretation is that violence is a means to increase the perpetrator's bargaining power in the household (Bloch and Rao, 2002; Bobonis et al., 2013; Eswaran and Malhotra, 2011). An alternative view is that violence generates direct utility to the perpetrator (Farmer and Tiefenthaler, 1997; Tauchen et al., 1991; Card and Dahl, 2011). Kibris et al. (2024) argue that women exposed to authoritarian husbands adopt pre-emptively fear-induced submission, with IPV acceptance seen as a manifestation of this submission.

Despite these contributions, it remains unclear whether experiencing IPV has a causal effect on the attitudes towards it. Psychology research explains this link with the theory of cognitive disso-

nance, which posits that victims adjust their attitudes to achieve consistency between their attitudes and experiences (Cash, 2012; Goodfriend and Arriaga, 2018).[10] However, this research lacks the establishment of a causal link. I fill this gap by testing this theory empirically with causal inference methods.

Moreover, contrary to most IPV literature that perceives violence statically, this paper leans on recent works recognizing its dynamic nature. For example, Adams et al. (2024) develop a new dynamic model of abusive relationships where women have incomplete information about their partner's type (violent vs non-violent type), and abusive men have an incentive to use economic suppression to sabotage women's outside options and their ability to exit the relationship. Anderberg et al. (2023) develop a dynamic model centred on women's decisions regarding partnership, fertility, and labour amidst abusive relationships, where knowledge of their partner's nature accrues over time. This paper adapts the latter model developed by Anderberg et al. (2023) and proposes a simple conceptual framework that studies the dynamic relationship between exposure to intimate partner violence and the tolerance towards it in a setting where exiting abusive relationships is constrained.

Second, this paper speaks to the literature in economics that focuses on how gender norms originate and persist. Several studies provide evidence that ancestral and cultural characteristics can shape the evolution of norms and beliefs (Alesina et al., 2013; Ashraf et al., 2020; Giuliano and Nunn, 2021; Becker, 2022; Corno et al., 2020a). Similarly, existing evidence indicates that restrictive norms impose direct costs on those who deviate from them, reinforcing the persistence of these norms (Andrew et al., 2022; Guarnieri and Rainer, 2021). This paper is the first to study if and to what extent attitudes about harmful norms can be affected by the experience of harmful behaviours.

Third, this paper is related to the strand of the literature that focuses on policies' externalities on women's well-being. Recent works show the importance of the interaction between culture and institutions and how policies might impact women in a non-obvious way (Ashraf et al., 2020; Bau, 2021; Bhalotra et al., 2020; Ebenstein, 2014; La Ferrara and Milazzo, 2017; Schoellman and Tertilt, 2006; Tertilt, 2006; Erten and Keskin, 2018). This paper deepens our understanding of how policies might affect gender norms in the short and long term.[11]

[10] "The idea of a loving partner is dissonant with the idea that one's partner is aggressive and violent. To manage these clashing cognitions, victims may (consciously or unconsciously) engage in cognitive processes that minimise the apparent occurrence or impact of aggressive acts, reinterpret their perceptions of the perpetrator, and justify remaining in the relationship despite the aggression" Goodfriend and Arriaga (2018).

[11] This paper also contributes to the literature in economics that studies the role of alcohol regulation policies on gender-based violence. For instance, Angelucci (2008) shows that small transfers to women reduce alcoholism and domestic violence in rural Mexico. Barron et al. (2022) found that in South Africa, for every single week of the ban on alcohol during the COVID-19 pandemic, there were 105 fewer rapes. In India, Luca et al. (2015) find that in states that banned alcohol, men were less likely to consume alcohol and domestic violence was 50% lower. In Luca et al. (2019), the authors study the minimum legal drinking age in India, and they find that men who are legally allowed to drink are more likely to commit violence against their partners.By employing a different empirical strategy and more data, my paper builds on Luca et al. (2015) and Luca et al. (2019) and confirms their results on alcohol regulation on IPV. Kumar and Prakash (2016) discusses the decision of Bihar of banning alcohol in 2016 and how this policy risks to be ineffective in fighting violence against

The rest of the paper is organised as follows. In Section 2, I propose a simple conceptual framework to understand the relationship between IPV and the tolerance thereof, in the short- and long-term. In Section 3, I document the prevalence of violence and the tolerance towards it, and I describe the alcohol regulation in India. In Section 4, I discuss the data used for the estimation. In Section 5, I describe how I overcame the challenge of establishing a causal link between IPV and its tolerance in the short and long term, employing two different empirical strategies. In Section 6, I present and discuss the main results, and in Section 7 I discuss the implications of IPV-acceptance on help-seeking behaviour. Lastly, I conclude in Section 8.

2 Conceptual Framework

This section outlines a conceptual framework that models the relationship between the experience of intimate partner violence and victims' tolerance towards it in contexts where individuals have limited outside options. The model shows that when outside options are scarce and with prolonged exposure to violence, individuals may increase their tolerance of violence as a coping mechanism.

2.1 Set-up

Following Anderberg et al. (2023), I develop a framework of the behaviour of individuals in a setup where there is heterogeneity among partners in their propensity to engage in abuse, and individuals have limited outside options, notably when the cost of separation is extremely high. I assume two types of spouses: violent and non-violent; the latter has a small but positive probability of inflicting abuse. A partner's propensity to abuse is modeled as non-strategic, meaning it is taken as given, contingent upon the partner's type. The partner's type, a fixed characteristic, remains unobservable to the other spouse upon marriage entry. The marriage match is assumed to be exogenous to the spouses' knowledge of each other's propensity for violence. This assumption is consistent with contexts, such as the Indian one, where arranged marriages are widespread, and the spouses often meet only around the time of the wedding.[12] When encountering violent signals, an individual revises their prior about their partner's nature. They can decide their level of tolerance towards violence. Changing this tolerance is costly (as it generates disutility) and is irreversible. Consequently, only after accumulating substantial evidence (through signals) of their partner's type does an individual recalibrate their tolerance levels, resulting in a gradual, albeit costly, shift in attitude towards violence.

women. Chaudhuri et al. (2024) using a DiD design show that alcohol prohibition in Bihar dicreased violent crimes, but had no significant impact on non-violent crimes.

[12] According to the Survey of Status of Women and Fertility, 70% of spouses meet on the day of the wedding or the month before.

2.1.1 Bayesian Learning

Consider a population of married couples, facing an infinite time horizon T = 0, 1... Each couple consists of two spouses (I refer to them as *spouse J* and *spouse K*). At time 0, the couple gets married. Any spouse K can be of two possible types, $v \in [0, 1]$: either *violent* ($v = 1$) or *non-violent* ($v = 0$). The spouse K's type is a fixed characteristic. When the spouse J gets married, they do not observe the type of their spouse. They update their beliefs about the type of spouse they have been matched to, based on the information they receive (violent and non-violent signals).[13] Both types of spouse K might be abusive. Spouses K with a violent nature commit intimate partner violence with a high frequency, whereas spouses K with a non-violent nature commit violence rarely. The conditional probability that the spouse J receives a violent signal given that their partner is of violent type is greater than the conditional probability that the spouse J receive a violent signal given that their partner is non-violent. Linking this model to my empirical approach, which draws upon variations in the minimum legal drinking age, we can interpret alcohol as a catalyst, leading to diminished control and inhibitions. This alcohol-induced effect is especially intensified for *violent* spouses.

Let P_0 be the spouse J's prior that their partner is violent. $P(\theta|v = 1)$ is the probability that the spouse J receives a violent signal (θ), given that their partner is of a violent type. Whereas $P(n\theta|v = 0)$ is the probability that the spouse J receives a non-violent signal ($n\theta$) given that their partner is of non-violent type. Signals are symmetric, meaning that the likelihood of receiving a signal is the same for both types of signals, conditional on the spouse K's true type.[14] This is to say that the probability that the spouse J receives a violent signal given their partner being violent is equal to the probability that the spouse J receives a non-violent signal given their partner being non-violent. Thus, for the sake of simplicity, we can write: $P(\theta|v = 1) = P(n\theta|v = 0) = P_\theta$.

Bayesian Learning at Time T-1 Suppose that up to time $T - 1$, spouse J has received $k - 1$ violent signals (i.e., θ) and $T - k$ non-violent signals (i.e., $n\theta$).[15] The individual updates their beliefs about their partner being of violent-type under standard Bayesian updating:

$$P_{T-1}(\theta^{k-1}, n\theta^{T-k}) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{P_\theta}{1-P_\theta})^{(T-1)-2(k-1)}},$$

where $P_{T-1}(\theta^{k-1}, n\theta^{T-k})$ is the posterior probability that the partner is of violent type at time $T - 1$ after the spouse J observed $k - 1$ violent signals and $T - k$ non-violent signals.

[13] The match is assumed to be random.
[14] The symmetric assumption is not strictly needed, but it simplifies the mathematical expressions.
[15] Note that the exponentials $(k - 1)$ and $(T - k)$ in the formulas are counts of occurrences of the signals.

Bayesian Learning at Time T At time T, they observe an additional signal (either violent or not), and their beliefs that their partner is of violent type update again:

$$P_T(\theta^k, n\theta^{T-k}) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{P_\theta}{1-P_\theta})^{(T-2k)}},$$

where P_T is the posterior probability that their spouses' partner is of violent type at time T after observing k violent signals and $T-k$ non-violent signals.
See Appendix C for futher details and derivations of these calculations.

2.1.2 Victim's Expected Disutility

The individual's expected disutility from violence is as follows:

$$\pi = -\gamma \cdot [P_T \cdot P_\theta + (1-P_T) \cdot (1-P_\theta)] \cdot \tau - \beta(\tau' - \tau)^2,$$

where experiencing abuse is associated with a disutility $\gamma > 0$. $[P_T \cdot P_\theta + (1-P_T) \cdot (1-P_\theta)]$ captures the spouse J's perceived likelihood of experiencing violence based on their beliefs. τ' is the individual's initial level of intolerance of violence, such that $\tau' \in (0,1)$, where $\tau' = 1$ means that the individual is extremely intolerant towards violence. The higher their intolerance towards violence, the more disutility they suffer from violence. Based on their current beliefs about the type of partner they are matched to, they decide the level of intolerance of violence. Specifically, the individual can opt for a new level of intolerance τ, where $\tau < \tau'$. The cost associated with opting for a new level of intolerance towards violence is given by: $\beta(\tau' - \tau)^2$. Changing their level of tolerance towards violence is costly because it generates disutility and is irreversible. $\beta > 0$ is a weight that determines how costly is for an individual to adapt their initial level of tolerance.

The individual faces the following optimisation problem:

$$\min_\tau \pi = -\gamma \cdot [P_T \cdot P_\theta + (1-P_T) \cdot (1-P_\theta)] \cdot \tau - \beta(\tau' - \tau)^2$$

Based on their current beliefs about their type of partner, the individual chooses their optimal level of intolerance:

$$\tau = \tau' - \frac{\gamma}{2\beta}[P_T \cdot P_\theta + (1-P_T) \cdot (1-P_\theta)]$$

This indicates that the more the spouse believes their partner is violent, the more inclined they might be to adjust their tolerance. However, this adjustment is offset by the cost of adjusting (parameterised by β). The conceptual framework presented suggests that the individual might take some time to update their beliefs about the type of partner they are married to, based on the number of

signals (violence) they receive. Once they update their beliefs, the spouse can decide to (i) leave the relationship if the cost of divorce is low or, (ii) remain in the relationship if the cost of divorce is high (stigma, legal barriers, etc.) as in the setting of this study. If the spouse remains in the relationship, after they update their beliefs about the partner, they might decrease their intolerance about intimate partner violence threshold, as a coping device.

The theoretical model is based on victims' subjective beliefs regarding the likelihood of repeated violence, in line with the psychological literature suggesting that victims often perceive the acts of violence as isolated events Walker (2016). Under this approach, beliefs are updated only once sufficient information is obtained. In contrast, the long-term empirical analysis treats IPV as a recurrent issue (see Section 5), aligning with evidence that IPV exhibits some of the highest rates of repeated criminalization Flatley et al. (2010). By distinguishing these subjective (victim-based) and objective (empirically observed) viewpoints, the analysis reconciles the model's focus on belief formation with established recidivism patterns.

3 Background

3.1 Women's condition in India: IPV, tolerance of violence and divorce

Globally, one in four women report experiencing intimate partner violence (IPV) in their lifetime (WHO, 2021). In India, the country studied in this paper, the prevalence of violence is even higher. The most recent National Family and Health Survey (The National Family Health Survey, 2021) indicates that 31.7% of ever-married Indian women have experienced IPV during their lifetime.[16] Less severe physical violence is the most prevalent (27.7%), followed by emotional psychological violence (14%), severe violence (8.7%), and sexual violence (6.1%).[17] Furthermore, alcohol-related abuse is pervasive in India. Indian women with spouses who consume alcohol have a 3.11 times higher risk of experiencing intimate partner violence than those whose spouses abstain from alcohol (da Silva Maia et al., 2022). Tolerance towards wife-beating is also very high. The NFHS 2021 shows that 46% of Indian ever-married and never-married women deem wife-beating justifiable under certain conditions. Notably, while high, men's tolerance towards wife-beating is less than that of women, with 27% believing it acceptable in specific situations.[18]

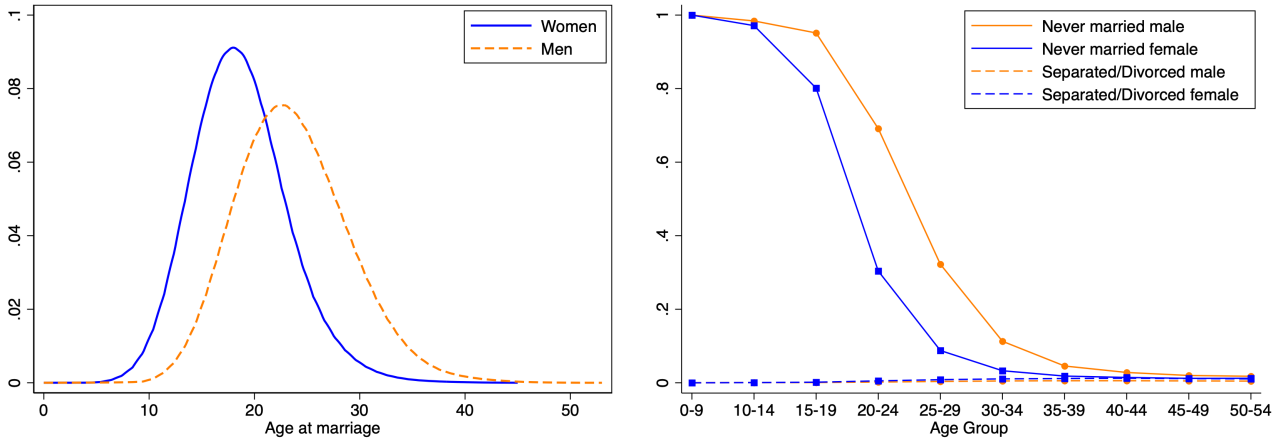
[16] Calculations based on Individual Data Survey of the National Family and Health, 2019-2021. The application of domestic sample weights (provided by the NFHS) ensures representativeness. Only one married woman per household is eligible to respond to the Domestic Violence Module.

[17] Less Severe Physical Violence: actions like slapping, punching, twisting,pushing. Severe Physical Violence: actions causing notable harm such as kicking, strangling, burning, and weapon threats. Emotional/Psychological Violence: acts causing mental distress, e.g., humiliation, violent threats, insults. Sexual violence: non-consensual sexual acts, including forced intercourse or related actions

[18] Calculations based on Individual Data Survey of the National Family and Health, 2019-2021. The application of sample weights (provided by the NFHS) ensures representativeness.

Figure 1: Age at Marriage, Marriage, Divorce/Separation in India

(a) Age at Marriage (b) Marriage and Dissolution of Marriage Rates



Note: Panel (a) shows the age at marriage for women and men in India. Panel (b) shows the share of never-married women and men by age group, and the share of divorced and separated women and men. *Source:* Panel (a): National Family Health Survey 2019-2021. Panel (b): Census of India 2011. These charts are a replication of Figure 1 of Beauchamp et al. (2021), using different data sources.

Based on data from NFHS 2021, Figure 1a shows the age distribution at marriage for both genders. Women's average marriage age is 18.6 years old. Over 90% of women marry by age 25. Men generally marry later, with an average marriage age of 23.6. Divorce and separation are rare in India, as shown in Figure 1b. The Census of India (2011) records 1.36 million divorced individuals, constituting 0.24% of the married and 0.11% of the total adult population (Jacob and Chattopadhyay, 2016). Based on the NFHS 2021, 0.4% of women are divorced, and 1% not living together. Indeed, the termination of a marriage is socially sanctioned and perceived as detrimental to a woman's reputation (Ragavan et al., 2015).[19]

3.2 Alcohol regulation in India

Alcohol regulation in India is a prerogative of state governments. As a result, alcohol regulation policies vary across states, ranging from prohibition to different minimum legal drinking ages. Differences in alcohol regulation date back to the colonialism period and independence in 1947.

During the British colonial occupation, alcohol production and consumption gradually increased and became a central component of Indians' lives. During the period of British occupation, together with the promotion of alcohol consumption, the first prohibitionary organisation (the Anglo-Indian Temperance Association, AITA) was founded in 1888 by the British MP William S. Caine (Luca et al., 2019). The success of the AITA, together with the protests against alcohol consumption, led the British rulers to establish the Excise Committee (1905) to control alcohol consumption through heavy taxation. This measure, however, restricted the local manufacture of alcoholic beverages and led

[19] According to the Survey of Status of Women and Fertility, 90% of women would not contemplate leaving their husbands if the husband was beating her or was a drunkard/ drug-addict.

to some replacement of traditional low-alcohol beverages by mass-produced, factory-made beverages (Sharma et al., 2010). Under British colonial rule, the upper classes embraced the consumption of foreign spirits, while socially and economically disadvantaged sectors of Indian society continued to rely on locally-produced country liquors (Sharma et al., 2010). The temperance movement gained strength with the nationalist movement and Gandhi, who transformed it into mass movements against alcohol seen as a symbol of colonial oppression (Benegal, 2005). They evolved a demand for total prohibition that led to the inclusion of a statement in favour of prohibition under Article 47 of the Directive Principles in the Constitution. However, the Constitution also provided that the liquor industry (and all aspects associated with it) fell within the spheres of the single states (Benegal, 2005). By independence, many Indian states had alternately prohibited, relaxed, and repealed alcohol laws.

Following independence, some states initially attempted to enforce alcohol bans, but most ultimately relaxed prohibition due to the significant revenue generated by alcohol taxation. Gujarat is the only state with a continuous history of prohibition of alcohol. Bihar recently (2016) introduced a ban on alcohol. Additionally, alcohol is prohibited in Nagadland, in some districts of Manipur and in the period 1995-2014 (that is part of the study period) in the state of Mizoram (Jolad and Ravi, 2022). Where it is legal, alcohol is taxed heavily at the state level, and major states derive 15% of their revenue from alcohol excise duties (Jolad and Ravi, 2022). In states where alcohol sale is allowed, the minimum legal drinking age ranges from 18 to 25. According to Jolad and Ravi (2022), individuals belonging to the lower caste usually consume cheap distilled local spirits, and they are more likely to brew at home (Kamei, 2014). Thus, the minimum legal drinking age policy is likely to be unenforced among this particular group of individuals. The MLDA is more likely to be enforced in restaurants and bars, venues which are typically frequented by the upper caste. I will exploit this heterogeneity for my identification strategy.

4 Data and Descriptive Statistics

4.1 Prevalence of IPV and tolerance towards violence

I use data from the 2005, 2015 and 2020 cycles of The National Family Health Survey (2005–2021) (NFHS) to measure the prevalence of intimate partner violence and the attitudes towards it.[20] The NFHS is a nationally representative repeated cross-sectional survey that collects information on individual's economic and demographic background. The NFHS identifies the men and women who both declared being married/living together with each other. In the main analysis (short and long

[20]The National Family Health Survey corresponds to the Indian DHS, and I refer to DHS and NFHS interchangeably.

term results), I use the couple datasets, where the unit of observation is the couple in which both partners were interviewed.

Respondents are asked extensively about their health, alcohol consumption, and their attitudes towards violence. To measure the respondents' tolerance towards violence, I rely on some questions about tolerance towards wife-beating. Specifically, respondents are asked whether a husband is justified to beat his wife if she (i) goes out without his permission, (ii) neglects the children, (iii) argues with the husband, (iv) burns food and (v) refuses sexual intercourse, vi) is unfaithful, vii) disrespects the in-laws. Figure A9 shows the variation of violence justifiability in the different scenarios. The situation in which IPV is the most accepted is when the wife disrespects the in-laws, with 36% of women reporting that violence is justified in that scenario and when the wife neglects the children, with 31% of women in the sample reporting that violence is tolerated in that context. Violence is much less tolerated when the spouse refuses sexual intercourse with the partner, with 13% of women reporting that spousal violence is acceptable in that circumstance. I combine the single measures of tolerance in an index that is constructed as an inverse covariance weighted average of the 7 questions, following Anderson (2008b).[21]

The NFHS collects information on actual experience of IPV from a subsample of eligible women. Only one married woman of reproductive age (age range 15-49) per household is asked about her experience of emotional, physical, and sexual violence. Measuring intimate partner violence can present challenges related to reporting. However, the NFHS addresses this issue by giving special attention to the domestic violence module questionnaire. The NFHS takes steps to ensure the safety and privacy of women by conducting the survey separately from the household survey and assigning trained female interviewers. The questionnaire is designed to encourage the full disclosure of violence, aligning with the guidelines provided by the World Health Organization (WHO). Moreover, women who report to have experienced either physical or sexual violence from their partner, are also asked about the onset of it in years after marriage.

Figure A10 shows that in India 26% of women reported having experienced some form of IPV in the last 12 months. 11% of women in the sample reported being victims of some form of emotional violence, and 31% reported to be victims of physical and/or sexual violence in the last 12 months. Importantly for my identification strategy, information on the month and year of the interview, as well as respondents' month and year of birth is collected.

[21] "I don't know" answers are coded as missing.

4.2 Minimum Legal Drinking Age policies

Data on the Minimum Legal Drinking age in the period of this study have been shared by Luca et al. (2019) and complemented by manually checking amendments to the laws using a digital repository named India Codes which encompasses all Central, State, and Union Territory enactments and legislations. Luca et al. (2019) compiled a dataset of state-level laws on the minimum legal drinking age to consume alcohol in India. The MLDA varies significantly across Indian states. In some states the MLDA is 18 years old, the majority imposes the minimum age at 21 years old and a few states set the MLDA at 25 years old. Table 1 presents the minimum-legal-drinking age restrictions across Indian States.

Table 1: Minimum-Legal-Drinking Age in India between 1998-2020

Alcohol-Regulation Policies (1998-2020)	**Indian States**
MLDA at 18	Andaman and Nicobar Islands, Kerala (until 2010), Mizoram (2014-2018), Himachal Pradesh (after 2006), Puducherry, Rajasthan, Sikkim.
MLDA at 21	Andhra Pradesh, Arunachal Pradesh, Assam, Bihar (until 2016), Chhattisgarh, Dadra and Nagar Haveli and Daman and Diu, Goa, Jammu and Kashmir, Jharkhand, Karnataka, Odisha, Maharashtra (in 2005 only), Madhya Pradesh, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal.
MLDA at 25	Chandigarh, Delhi, Haryana, Himachal Pradesh (only 2005-6), Maharashtra, Meghalaya, Punjab.
Ban on Alcohol	Bihar (after 2016), Gujarat, Kerala (partial ban 2010-2017), Lakshadweep, Manipur (partial ban), Mizoram, Nagaland.

Source: Data on alcohol regulation policies in 2005 was shared by Luca et al. (2019) and Luca et al. (2015). Information on amendments to the policies was manually checked through the *India Codes* repository. *Note*: This table presents the alcohol regulation policies (minimum-legal-drinking age and ban) that were implemented between 1998–2020.

5 Empirical Strategy

In this section, I show the causal link between the experience of intimate partner violence and the victims' tolerance towards it. The causal identification exploits the variation generated by the minimum-legal-drinking age on a subset of Indian states and the age of the husband at the time of interview.

5.1 Identification of Short Term effects: Regression Discontinuity Design

In order to estimate the causal effect of intimate partner violence on attitudes towards it, I need to account for two different sources of endogeneity. First, there might be some unobserved characteristics that correlate both with intimate partner violence and the tolerance of it (omitted variable bias). Second, when studying the link between IPV and attitudes towards it, separating correlation from

causation is very challenging because of the simultaneity bias. Indeed, women might select into abusive relationships if they find violence acceptable a priori, or they might learn to cope with aggressive behaviours from their partners when they are themselves victims. The aim of this identification is to break the reverse causality and isolate the effect of IPV on its tolerance.

To deal with sources of omitted variable bias and reverse causality, I identify the effect of violence on its tolerance by taking advantage of the Minimum Legal Drinking Age (MLDA) in states which set the minimum at 25 years old, in a Regression Discontinuity Design (RDD). I implement an RDD based on the age of the male partner within the couple. In the RDD analysis, I focus on couples living in states where the MLDA is 25; states with MLDA at 18 and 21 are not considered because 18 and 21 are also the legal age for marriage in the period considered (respectively for women and men), posing a potential confounder.[22] Employing a Regression Discontinuity Design, I therefore compare couples where the husband is legally allowed to drink (age beyond 25 years old) to those whose partner is not legally allowed to consume alcohol (age below 25 years old). In the absence of manipulation around the cut-off, husbands who are just above 25 should be similar to those who are just below 25. Therefore, if I observe any systematic difference in behaviour around the threshold after the legal minimum to drink, I can attribute it to the policy. I use a local non-parametric approach, with triangular kernel density function in the optimal bandwidth proposed by Calonico et al. (2014), as my preferred specification. I also allow for the optimal bandwidth to vary to the right and the left of the cutoff (Calonico et al., 2017).

In particular, I estimate the following equation:

$$Y_{ist} = \alpha + \beta D_{ist} + \theta f(x_{ist} - MLDA) + \delta D_{ist} \times f(x_{ist} - MLDA) + \gamma_s + \eta_t + \zeta_{ist} TimeInterview + \epsilon_{ist} \tag{1}$$

for all $x_i \in (MLDA + h_r, MLDA + h_l)$,

where the Y_{ist} outcome of interest (husband's alcohol use/IPV/Attitudes) of respondent i in state s at time t is a function of a dummy D_{ist} which takes the value of 1 the male partner's age is above the MLDA (25 years old, in months) and 0 otherwise; a linear function of the age (in months) centred on the discontinuity cut-off; a set of time-wave fixed effects η_t and locations (states) fixed effects γ_s. Additionally, ζ_{ist} controls for the time of day when the interview was conducted (i.e., morning, afternoon, or evening) to account for potential reporting bias, as recent research indicates that women are less likely to self-report IPV during evening surveys (Theiss, 2024). The key parameter of interest is β, that identifies the intention-to-treat (ITT) estimate. I present the robust bias corrected standard

[22] Prohibition of Child Marriage (Amendment) Bill raised the age at marriage for women at 21 in 2021.

errors, clustered at the running variable level, as prescribed by Lee and Lemieux (2010).[23]

Because I am interested in the effect of violence on attitudes towards it, it is important to verify that:

- Husbands above the cut-off consume more alcohol than their counterparts below the minimum age
- Wives are more likely to experience abuse when compared to wives of men just below the age cut-off

5.1.1 Sample selection

In the Regression Discontinuity Design (RDD) analysis, I restrict the sample to Indian states that, between 1998 and 2020, enforced a legal minimum drinking age (MLDA) of 25 years. This choice is motivated by two key reasons. First, the average age of marriage for Indian men in the sample is 23 years, ensuring an adequate number of married men below the 25-year cutoff.[24] Second, states with an MLDA of 21, which could potentially provide more statistical power, are excluded because 21 is also the legal minimum age for marriage, creating a potential confounder. To mitigate selection bias, the analysis focuses specifically on couples where the husband married before reaching the age of 25.

Husbands' alcohol consumption is measured using both self-reported and wife-reported data. Specifically, a husband's alcohol consumption is coded as 1 if either the husband self-reports drinking alcohol or the wife reports that he does. However, wife-reported information on husbands' alcohol consumption, as well as data on the prevalence of IPV, is collected only from women selected to answer the Domestic Violence Module. Although questions on IPV acceptance are asked to *all* respondents, the analysis is restricted to those selected for the Domestic Violence Module to ensure consistency in measuring alcohol consumption, IPV, and acceptance thereof.[25]

The final estimation sample for the Regression Discontinuity Design consists of 10,773 married couples.

[23] Given that my empirical strategy relies on the age of the male partner in months at the time of the interview, it is important that the reported month of birth is accurate. However, when comparing the monthly birth rate distribution in the DHS data with the monthly birth rate distribution from administrative data, it appears that the month of January is over-represented in the former. To address this, I estimate the main specification using a sample that does not include couples whose male partner was born in January (see Table A15). The coefficients are very similar in magnitude and precision to those estimated using the full sample.

[24] This average is calculated by pooling data from the 2005, 2015, and 2020 rounds of the NFHS. Sample weights are applied to ensure representativeness.

[25] In the DHS, selection into the Domestic Violence Module is indicated by the variable v044.

5.1.2 Validity Assumptions

The identification assumption is that individuals did not manipulate their treatment status. Lee and Lemieux (2010) suggest two strategies to test this assumption. First, there should be no discontinuity in the density of the running variable at the cut-off. Second, pre-determined couples' characteristics of the couples should be balanced around the cut-off.

Figure A11 displays the histogram of the frequency of the age of the husbands in months (the score). There is no visual evidence of a kink at the threshold. I then formally test the no discontinuity hypothesis using the Frandsen (2017) test for discrete variables; with a p-value = 0.664, I fail to reject the null hypothesis that the there is no discontinuity of the running variable around the cut-off, as displayed in Table A10. Thus, I conclude that there is no evidence of treatment manipulation.

The second step in assessing the internal validity of the RDD is to test if background individuals' (or couple's) characteristics exhibit a discontinuity at the 25-years old threshold. Table A11 provides evidence of the continuity on background characteristics. The Table shows the point estimates obtained by estimating Equation 1. All the characteristics appear balanced around the cut-off. This implies that the couples are comparable in their observable characteristics around the cut-off.

5.2 Identification of Long-term effects: Event Study Design

In this section I study how the relationship between the experience of intimate partner violence and the tolerance towards it may vary depending on the length of exposure of violence. In line with the conceptual framework presented in Section 2, I empirically test whether the coping mechanism may lead to more tolerance if women have limited outside options.

5.2.1 Empirical Intuition

To investigate whether the length of exposure to an abusive partner affects women's tolerance of violence, I exploit the variation generated by the Minimum Legal Drinking Ages across Indian states. I implement an Event Study Design to compare observationally equivalent couples residing in states where the MLDA is 21 to those living in states where it is 25. My hypothesis is that husbands who are legally allowed to drink after 21, are more likely to start drinking *earlier* compared to husbands in states where the MLDA is 25. Consequently, I expect that - holding the duration of marriage constant - men who can legally drink at 21 are more likely to begin abusive behaviour against their wives *earlier* than men in states with a MLDA of 25. As a result, I hypothesise that the duration of abuse is higher in states where individuals are legally allowed to drink at a younger age.

To compute the duration of abuse (in years) for each woman, I take advantage of information collected by the DHS: women who report being victims of IPV are also asked about the timing of the

onset of violence. I assume that once IPV starts, it persists for the entire duration of the marriage. This assumption is supported by evidence showing that domestic violence is the crime category with the highest rate of recurrent victimization (Hanmer et al., 1999; Walby and Allen, 2004; Daigle et al., 2008; Flatley et al., 2010; Kuijpers et al., 2012; Amaral et al., 2021; Anderberg et al., 2023).

I compare couples in states where the MLDA is 21 to those in states where the MLDA is 25. Couples are considered treated if they reside in states where MLDA = 21 and the husband's age is greater than 21 (i.e., the husband is legally allowed to drink). The control group consists of couples residing in states where the MLDA = 25.

The identifying strategy relies on the assumption that couples residing in states with MLDA at 21 and those in states with MLDA at 25 would have followed parallel trends in the duration of abuse and attitudes toward violence before husbands were legally allowed to drink (i.e., before the age of 21).

5.2.2 Estimating Equation

In order to investigate whether the length of exposure to IPV affects women's tolerance of violence, I estimate the following equation:

$$Y_{istz} = \alpha + \sum_{\tau=-2}^{4} \beta_\tau \mathbb{1}[t-21=\tau] \times MLDA_s^{21} + \omega_w + \phi_d + \gamma_k + \delta_{k'} + \rho_t + \psi_z + \lambda_s + \mathbf{X_i}\theta + \varepsilon_{istz}, \quad (2)$$

where the dependent variable Y_{istz} is the outcome variable for the individual i (either the woman i or the husband of the woman i in case of alcohol consumption), residing in state s, at age z and at event-time t. $MLDA_s^{21}$ is a binary variable coded as 1 if the Minimum Legal Drinking Age of the state where the couple resides is 21, and 0 if it is 25. The analysis is restricted to states with unchanged MLDAs during the study period.[26] Thus, the $MLDA_s^{21}$ is time-invariant. It is interacted with event-year dummies, $\mathbb{1}[t-21=\tau]$, where τ measures the years relative to when the husband reaches the legal drinking age in states with MLDA = 21. Specifically, $\tau = 0$ represents the year when the husband turns 21, $\tau < 0$ represents years before reaching legal drinking age, and $\tau > 0$ represents years in which the partner is legally allowed to drink within the marriage. Couples whose husband's age is over 25 years old are excluded, as individuals in the control state become legally allowed to drink, making the comparison less clean. For example, if a husband is observed at age 23 and was married at age 22, then $\tau = 1$ in states with MLDA = 21, indicating he has been legally able to drink for one year during the marriage. The policy should have an impact on men who are

[26] One example is the case of Bihar, that in 2016 imposed a ban on alcohol; therefore individuals residing in Bihar during the last survey round (NFHS, 2019-2021) have been dropped from the analysis. Similarly, Himachal Pradesh, Kerala, and Maharashtra temporarily changed their MLDA; couples interviewed during these periods are not considered. These exclusions ensure that $MLDA_s^{21}$ remains time-invariant across the sample. See Table 1 for more details.

older than 21 at the time of the survey (lags) and should not affect individuals who are under-aged to consume alcohol (leads). The omitted category is 20 years old. Thus, the dynamic impact of the policy is estimated with respect to the age at which men become legally allowed to drink in the treated states. The coefficients β_τ measure the change in outcomes in treated states (MLDA = 21) relative to not-treated states (MLDA = 25). ρ_t represents fixed effects for the years within marriage during which the partner was eligible to drink. The specification includes fixed effects for year of marriage (ω_w), controlling for time-variant shocks to the marriage market; marriage duration fixed effects (ϕ_d) account for changes in relationship dynamics. γ_k and $\delta_{k'}$ are the husband's and wife's birth cohorts and controls for factors that vary across cohorts. ψ_z controls for the wife's age fixed effects. Adding these fixed effects ensures that observationally equivalent couples - with the same age and with similar marriage experience - are compared. The term λ_s indicates the state of residence fixed effect and controls for time invariant characteristics that may be correlated with the outcome, and $\mathbf{X_i}$ is a vector of individual-level controls, such as whether the partner is Hindu, and the timing of the interview (Theiss, 2024). Standard errors are clustered at state-age of the husband level, since the treatment is determined by the state of residence and the husband's age (i.e., his eligibility to drink).

5.2.3 Sample selection

The Event Study approach focuses on couples where the husband's age at the time of the interview is between 15 and 25 years. Couples in which the husband is younger than 19 are grouped together because of the limited number of observations. Couples in which the husband is over 25 are excluded, as individuals in the control group may begin drinking after that age, making the comparison less precise. To align with the availability of MLDA data, the sample is further restricted to marriages that took place after 1998.[27] The resulting estimating sample consists of 6,836 couples living in states where the MLDA is either 21 (the treated group) or 25 (the control group).[28]

[27] Marriages occurring before 1998 account for less than 2% of all marriages in the 15-to-25-year age range.

[28] See Table A9 for descriptive statistics of the estimating sample. As shown in Table A9 the average age of the husband is 23.3 years old, and 21 for the wives. The average age at marriage for men is 20, and for women is 17.7. In this sample the average duration of marriage is 2.9 years. The average length of violence in couples that on average have been married for 2.8 years is of 0.6 years. If we condition the duration of abuse on couples where the wife has been victim of IPV in her lifetime, then the duration of abuse is 2.5 years. The differences between individuals in states where the MLDA is 21 and 25 are small.

6 Results

6.1 Correlation between IPV Prevalence and Tolerance of violence

Table 2 shows the simple correlation between the experience of intimate partner violence and the tolerance of it.[29]

The first column of Table 2 shows that the experience of violence is associated with an increase of the tolerance towards violence by 0.19, which corresponds to approximately 0.25 sd. This correlation is statistically significant at 1 percent level. The second column of Table 2 shows the correlation between women's attitudes around wife-beating and instances where wives have reported abuse in the past year by husbands who are usually or often drunk. The experience of abuse by husbands who are sometimes or often drunk is associated with an increase in wives' tolerance towards wife-beating by 0.15 (approximately 0.2 sd). There may be concerns that perceptions of wife-beating based on the reasons presented in the NFHS do not align with views on wifebeating attributed to alcohol-induced abuse. The former is potentially deemed 'justifiable' under specific circumstances, while the latter might be universally perceived as a violent act. Consequently, the correlations might be less distinct than if the data captured incidents of wifebeating unrelated to alcohol. However, the similarity of the coefficients presented in Table 2 helps to alleviate concerns regarding a weaker correlation in case of alcohol-induced violence.

[29] Coefficients derived estimating the following OLS equation:

$$Tolerance_{ist} = \alpha + IPV_{ist} + \mathbf{Z_{ist}} + \eta_s + \theta_t + \epsilon_{ist},$$

where dependent variable tolerance index of woman i, in district s at time t. I combine the 7 gender attitude variables as presented in Figure A9 into a inverse covariance weighted index, following Anderson (2008a). The explanatory variable IPV, takes value 1 if the respondent reports having experienced any form of violence from her partner in the last 12 months. I include state fixed effects η_s to control for any time invariant characteristics that might be correlated with the dependent variable. θ_t controls for time of the survey fixed effects and $\mathbf{Z_{ist}}$ includes a set of individuals' characteristics (age, caste, education in years, religion, timing of the interview, rural/urban). Wild Bootstrapped standard errors clustered at the state level.

Table 2: Correlation between attitudes towards violence and IPV

	Tolerance towards IPV [Index]	
Any violence (last 12 months)	0.195***	
	[0.000]	
Any violence (12 months) by a husband who is often drunk		0.145***
		[0.000]
Controls	Yes	Yes
State FE	Yes	Yes
Year of Interview FE	Yes	Yes
Mean Outcome	-0.003	-0.003
SD Outcome	0.76	0.76
Observations	151,885	151,885
Adjusted R-squared	0.104	0.096

Note: Table 2 represents the correlation between the experience of Intimate Partner Violence (IPV) on the woman's tolerance of violence. *Any violence (12 months)* takes value one if the woman reports to have experienced IPV in the last 12 months. *Any violence (12 months) by a husband who is often drunk* takes value one if the woman reports to have experienced IPV in the last 12 months and her husband is sometimes or often drunk. *Attitudes towards IPV* is an inverse covariance weighted average index following Anderson (2008a) that combines women's tolerance of violence in different scenarios, namely if the wife: (i) argues with the husband, (ii) neglects kids, (iii) goes out without permission, (iv) burns food, (v) refuses sexual intercourse, (vi) is unfaithful and (vii) disrespects the in-laws. Controls include: age, caste, and education in years, urban/rural dummy, timing of the interview, religion. State and Year-wave fixed effects included. Wild-Bootstrap standard errors clustered at state level. P-values reported in square brackets. *Source*: Own estimations using the National Family and Health Survey (NFHS 2005-2015-2020). Individual (IR) Sample.

6.2 Short-term Results

Table 3 presents the ITT estimates of the impact of the 25 years old - Minimum Legal Drinking Age (MLDA) on three main outcomes: the husband's alcohol consumption, the wife's experience of intimate partner violence (IPV) in the last 12 months, and her tolerance of wife-beating.

I begin by estimating the effect of the MLDA on the husband's alcohol consumption, using Equation 1. The outcome is a binary variable equal to 1 if either the husband self-reports alcohol consumption or the wife reports that her husband drinks alcohol, and 0 otherwise. The first column of Table 3 shows that husbands at the legal drinking age cut-off are 12.7 percentage points more likely to consume alcohol upon reaching the legal age. The estimated impact is statistically significant at the 5 percent level and represents a 35% increase relative to the sample mean (0.36).[30] A plausible concern is that men may under-report their drinking habits just before reaching the legal drinking

[30] Alcohol consumption is coded as one if either the wife reports that the husband is drinking or the husband self-reports alcohol consumption. As a robustness check, I run the same specification using alcohol consumption reported by men and women separately, as shown in Table A14. The magnitude of the coefficients is consistent: in all specifications, the probability of consuming alcohol increases by 40% relative to the mean. However, when using alcohol consumption reported by women as the dependent variable, the coefficient is not precisely estimated.

age. While this is a potential issue, under many state Excise Laws, selling or serving alcohol to individuals below the legal age results in sanctions primarily for the seller. Therefore, I expect this to reduce the incentives for men to under-report their alcohol consumption to the survey enumerators.

Columns 2–4 of Table 3 present the effects of the MLDA on the prevalence of IPV in the last 12 months, as estimated by Equation 1. Column 2 shows the estimated effect of the MLDA on an indicator variable equal to 1 if the wife self-reports experiencing any form of domestic violence (i.e., physical, sexual, or emotional) in the last 12 months. The estimated coefficient indicates that women whose husbands are legally allowed to drink are 8 percentage points more likely to experience violence. This effect is statistically significant at the 5 percent level and corresponds to a 46% increase relative to the sample mean (0.17). In Columns 3–4, I disaggregate the violence indicator to examine the effects on physical and/or sexual violence (Column 3) and emotional violence (Column 4). The estimated effect on physical and/or sexual violence is positive but not statistically significant, while the effect on emotional violence is stronger and appears to drive the main result. Women whose husbands are legally allowed to drink are 6.2 percentage points more likely to experience emotional violence (e.g., threats, humiliation, or insults). Columns 5–7 of Table 3 present the results for the effect of the MLDA on the frequency of violence. The outcome variable equals 1 if the respondent reports that at least one form of violence listed in the DHS occurred *often* in the last 12 months. This measure proxies for the intensity of violence. Table 3 shows that the MLDA increases the likelihood of frequent abuse for women whose husbands are legally allowed to drink by 3.7 percentage points, and this effect is statistically significant at the 5 percent level.[31]

The results so far confirm that (i) men who are legally allowed to drink are more likely to consume alcohol at the cut-off, and (ii) women whose husbands are legally allowed to drink face a higher risk of experiencing IPV. Given these findings, I next test the relationship between IPV and tolerance of it. The last column of Table 3 displays the ITT treatment effects on the wife's tolerance of wife-beating. The outcome variable is a inverse covariance weighted average of seven answers about women's acceptance of violence (Anderson, 2008b).The last column of Table 3 shows no significant effect of violence on tolerance of it.

Figure 2 shows the results graphycally. The Figure shows the residualised outcomes, by regressing them on the wave and state fixed effects and the timing of the survey as indicated in Equation 1 within the optimal bandwidth proposed by Calonico et al. (2014). The dotted line represents the cut-off (25 years old and 0 months at the time of the interview), and the horizontal lines represent the linear fit of the outcome variables, with the corresponding 90% confidence intervals. The blue circles represent the average of the outcomes in six-month bins. These figures confirm the patterns

[31] Using a different identification strategy and a larger dataset, these results align with the findings of Luca et al. (2019) on the impact of MLDA policies on alcohol consumption and IPV.

observed in Table 3, providing visual evidence of a significant jump at the cut-off for the husband's alcohol consumption and the wife's experience of IPV, and no significant jump in the wife's acceptance of violence.

Taken together, these results suggest that in the short run, a higher prevalence of violence does not translate into a change in tolerance of it, consistent with the conceptual framework presented in Section 2.

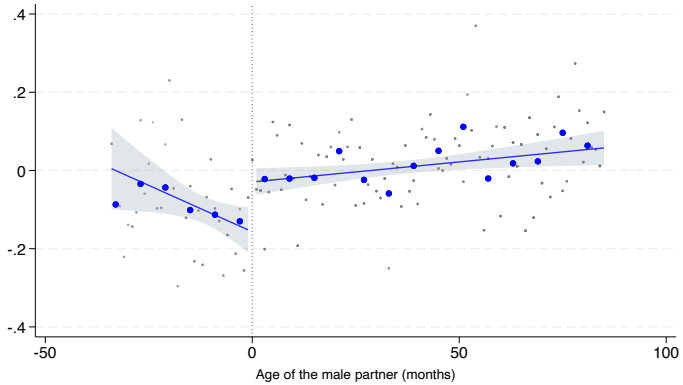
Table 3: Short-term effects

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.127**	0.080**	0.047	0.062***	0.037**	0.027	0.017	0.066
SE	0.056	0.036	0.037	0.021	0.020	0.016	0.013	0.144
P-Value	0.022	0.031	0.345	0.001	0.031	0.112	0.150	0.580
Left BW	34	39	34	31	35	37	36	36
Right BW	85	92	92	88	71	93	65	94
N	3,293	3,611	3,575	3,414	2,869	3,650	2,533	3,658
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

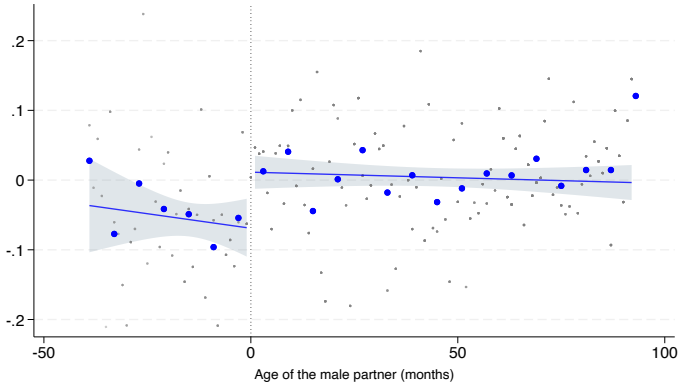
Notes: Table 3 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a inverse covariance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Figure 2: MLDA Discontinuity

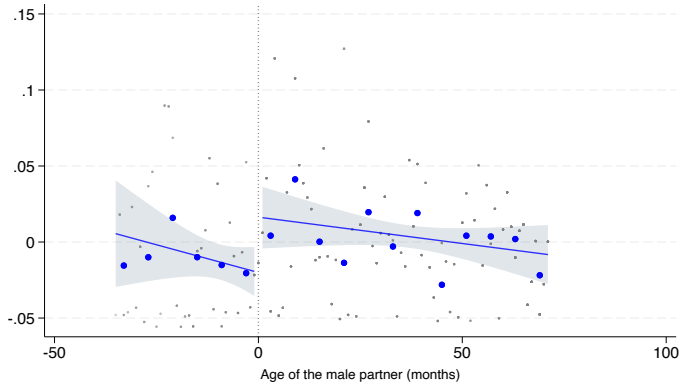
(a) MLDA discontinuity: Husband's alcohol cosumption



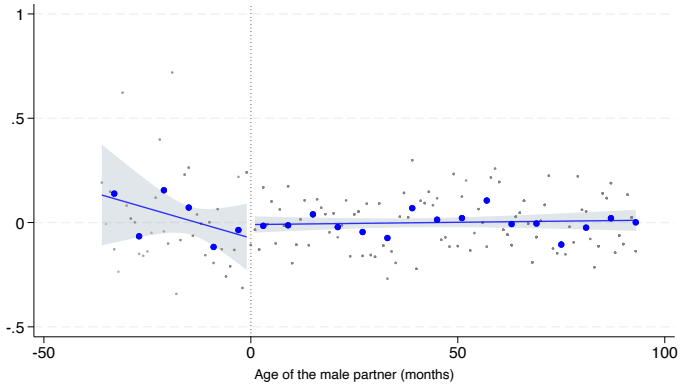
(b) MLDA discontinuity: IPV [last 12 months]



(c) MLDA discontinuity: Frequent IPV [last 12 months]



(d) MLDA discontinuity: Tolerance towards IPV



Note: The Figure 2 presents the residualised values of huband's alcohol consumption/wives' prevalence of IPV/ tolerance towards violence (Anderson, 2008a) (after controlling for all variables in the main specification 1) against the age of the husband in months (X-axis), in MSE-optimal bandwidths and applying triangular kernels.The blue circles represent the average of the outcome at score bins of size 6. In sub-figure 2a the outcome variable is a dummy taking value one if the husband consumes alcohol. In sub-figure 2b the outcome variable is a dummy taking value one if the wife reports to have been victim of IPV in the last 12 months. In sub-figure 2c the outcome variable is a dummy taking value one if the wife reports to have been victim of IPV often in the last 12 months. In Figure 2d the outcome variable is a inverse covariance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. *Source:* Own estimation using the National Family Health Survey (NFHS 2005-2015-2020).

6.3 Heterogeneity by Caste

As described in Section 3, lower castes typically consume cheap, distilled local spirits, which are often home-made. Therefore, individuals belonging to lower castes are less likely to frequent venues such as restaurants or bars, where the MLDA is more likely to be enforced, compared to informal venues such as habitations. Consequently, the effect of the MLDA may have a heterogeneous impact between lower and upper castes.[32]

Table 4 presents the estimated treatment effects of the MLDA using Equation 1 on husbands' alcohol consumption, wives' prevalence of IPV, and attitudes towards violence, split by lower and upper caste. The results show that the MLDA has stronger effects on individuals belonging to the upper caste. Among the upper caste, the MLDA increases husbands' alcohol consumption by 23.5 percentage points, a statistically significant effect. At the cut-off, the prevalence and frequency of violence also increase among upper-caste wives. Although the coefficients for the lower-caste sample are positive, they are not statistically significant at conventional levels.

These findings are consistent with the idea that the MLDA is more likely to be enforced in restaurants and bars, which are typically frequented by the upper caste. Lower-caste individuals, on the other hand, usually consume cheap, distilled local spirits (Jolad and Ravi, 2022), and in some states are more likely to brew alcohol at home (Kamei, 2014).

The coefficient on tolerance is not statistically significant in either sample, including the upper-caste sample, where the MLDA has a strong effect on violence. This confirms that, in the short run, a higher prevalence of violence does not translate into a change in attitudes towards it.

Figures A12 and A13 show the results graphycally. The Figures show residualised outcomes, by regressing them on the wave and state fixed effects and the timing of the survey as indicated in Equation 1 within the optimal bandwidth proposed by Calonico et al. (2014), for the lower-caste and upper-caste samples, respectively. These figures confirm the patterns observed in Table 4, showing that the upper caste exhibits a larger and clearer jump at the cut-off compared to the lower-caste sample.

[32] Before presenting the results, I perform two standard validity checks for the RD design, restricting the sample to individuals belonging to the lower caste and the upper caste separately. First, there should be no discontinuity in the density of the running variable at the cut-off. I formally test the no-discontinuity hypothesis using the Frandsen (2017) test for discrete variables. With a p-value of 0.576 for the lower-caste sample and 0.929 for the upper-caste sample, I fail to reject the null hypothesis that there is no discontinuity in the running variable around the cut-off in both samples (see Table A10). Tables A12 and A13 provide evidence of the continuity of the main pre-determined characteristics in the lower-caste and upper-caste samples, respectively. These figures display the point estimates obtained by estimating Equation 1 on the pre-determined characteristics. None of the pre-determined characteristics are statistically significant, suggesting that the covariates appear balanced around the threshold.

Table 4: Short-term Effects – Heterogeneity by Caste

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Lower Caste								
Above MLDA	0.113	0.046	0.018	0.046*	0.017	0.010	0.003	0.062
SE	0.074	0.045	0.045	0.028	0.023	0.021	0.017	0.154
P-Value	0.137	0.369	0.972	0.070	0.437	0.791	0.838	0.694
Left BW	38	36	35	33	37	38	37	33
Right BW	71	126	128	123	110	114	91	58
N	1,923	3,205	3,232	3,071	2,807	2,920	2,394	1,478
Mean of control	0.392	0.187	0.156	0.098	0.051	0.039	0.024	-0.052
Panel B: Upper Caste								
	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.235***	0.117*	0.077	0.104***	0.103***	0.078***	0.053***	0.041
SE	0.082	0.049	0.050	0.029	0.031	0.029	0.016	0.218
P-Value	0.001	0.074	0.348	0.000	0.000	0.004	0.000	0.765
Left BW	29	19	19	31	29	30	34	36
Right BW	84	68	66	88	64	77	68	91
N	1,012	802	747	1,077	772	947	843	1,127
Mean of control	0.288	0.139	0.125	0.053	0.048	0.038	0.024	-0.012

Notes: Table 4 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a inverse covariance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Panel A displays the results restricting the sample to individuals belonging to the Lower Caste. Panel B displays the results restricting the sample to individuals belonging to the Upper Caste. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01.
Source: Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

6.4 Robustness Checks

In this section, I carry out several sensitivity analyses and alternative specifications to address the robustness of my results.

6.4.1 Sensitivity to the bandwidth choice

Figure A14 assesses the sensitivity of the results with respect to the choice of alternative bandwidth. I address the issue of alternative bandwidth by plotting the estimates of regressions where the bandwidth is increased by 10% on the left of the cut-off and decreased by 10% on the right of the cut-off. The figures also show estimates in the optimal bandwidth marked in blue, using the algorithm pro-

posed by Calonico et al. (2014). The point estimates of the treatment effect are very stable and do not vary dramatically with the bandwidth size. Moreover, I estimate Equation 1 parametrically in 12, 24, 36, 48 and 60-months bandwidths, as shown in Figure A15. Across the board, the point estimates of the treatment effect do not vary dramatically with the bandwidth size.

6.4.2 Exclusion of Delhi

In the estimating sample, I include couples residing in the National Capital Territory of Delhi because, during the period considered, the legal minimum drinking age was 25 years old.[33] However, being a city, it is much easier to access alcohol in neighboring states where the MLDA is lower (for instance, Uttar Pradesh has an MLDA of 21 years old). Therefore, including Delhi in the analysis might introduce some noise. Table A20 presents the results excluding couples residing in Delhi. The results are larger in magnitude compared to the main specification and remain statistically significant.

6.4.3 Past exposure to abuse

Pollak (2004) analyses a model of intergenerational domestic violence, suggesting that individuals who grew up in violent homes tend to marry individuals who grew up in violent contexts. Given this, there might be concerns that the results are biased due to a selection effect, driven by those who grew up with abusive fathers. The NFHS asks both male and female respondents whether their father inflicted violence to their mothers. I therefore run the main specification based on equation 1 by excluding respondents who either reported having a violent father. Table A21 presents the results after excluding from the sample couples with past familial abuse. These results align with the main findings, suggesting that my conclusions are not driven by a selected sample with a history of familial abuse.

6.4.4 Alternative Specifications

While controlling for covariates is not essential in RD designs, their inclusion can be beneficial in mitigating bias from observations further away from the cut-off. Additionally, if these covariates are correlated with the outcome, their inclusion can enhance precision and help identify potential issues in the empirical strategy. Notably, substantial changes in the estimated effects after including covariates may compromise the credibility of the identification strategy. Therefore, the inclusion of covariates serves as an additional test of internal validity. Table A17 presents the estimated treatment effects after including individual characteristics as covariates, such as religion, caste, spouses' birth-months, gender of the first born, whether the spouses' fathers were abusive, spouses' education and

[33] In March 2021, Delhi lowered the MLDA to 21 years old. See: https://www.hindustantimes.com/cities/delhi-news/old-drinking-age-despite-new-excise-policy-in-place-101642630447547.html

whether the couple lives in a urban area. The estimated effect of the MLDA on the husband's alcohol consumption remains statistically significant and is nearly identical to the estimate presented in Table 3. The estimated effect on the prevalence of any form of violence remains positive and qualitatively consistent with the results in Table 3, but it is not statistically significant at conventional levels (p-value = 0.114). The estimated effects of the MLDA on the frequency of violence are more precisely estimated than those in Table 3 and are very similar in magnitude. Overall, the results are consistent with the main findings presented in Table 3.

Table A16 shows that the results are robust when controlling for a local quadratic function of the forcing variable. The estimated coefficients are very similar in magnitude to the ones estimated using the preferred specification and they remain statistically significant for the husband's alcohol consumption and the frequent prevalence of violence. The estimated coefficients are also robust when applying different Kernel functions, the Uniform and Epanechnikov, as shown in Tables A19 and A18.

These robustness checks support the validity of the RD design by demonstrating that the main results are stable across a range of specifications, functional forms, and weighting methods.

6.4.5 Placebo Tests

Table A24 provides a placebo check, confirming that there are no discontinuities in alcohol consumption, the prevalence of violence, or attitudes towards it at the 25-year-old threshold in states with an alcohol ban. The point estimates are all close to zero and not statistically significant. These null results support my identification strategy, as they show that the age threshold alone, without access to alcohol, does not drive the effects found in the main analysis.

As an additional robustness check, I use a method similar to Randomisation Inference, following Young (2019). Specifically, I construct hypothetical cut-offs and estimate the main specification. If significant results are found, this might indicate that the estimated effects are not capturing the impact of being above the Minimum Legal Drinking Age (MLDA).

To implement this test, I undertook the following steps: (1) I created a dummy variable, Above MLDA, using a random number generator to assign a value of 1 to 93% of the sample, mimicking the proportion of treated individuals in the original sample. (2) I ran the specification based on Equation 1 and recorded the t-statistics from each estimation. (3) I repeated these steps 1000 times for the main outcomes—husband's alcohol consumption and IPV prevalence—and plotted the distribution of t-statistics to determine the percentage of times a significant effect was found.

The distributions of t-statistics for all results are presented in Figures A16, A17, and A18. Across all outcomes, a significant treatment effect is identified in less than 5% of the models. This result

suggests that the likelihood of detecting the observed effects due to random fluctuations or chance is minimal. Instead, the evidence provides strong support that the observed effects are causally driven by the variation generated by the MLDA.

6.4.6 Inference

Kolesár and Rothe (2018) demonstrate that clustering by the running variable may not effectively address specification bias in discrete RDD settings. Recent studies, such as Takaku and Yokoyama (2021), suggest using heteroskedasticity-robust standard errors as an alternative, building on the findings of Kolesár and Rothe (2018). Table A22 presents the estimates using heteroskedasticity-robust standard errors. Additionally, Table A23 presents a specification where the standard errors are clustered at the district level. However, information on districts is only available for the 2015 and 2020 survey waves, so the 2005 wave is not included in this analysis.

6.5 Long term Effects

The RD Design provides a clean approach to capture the instantaneous effect of the prevalence of violence on victims' attitudes, but it cannot answer to what extent the *exposure* to abuse affects victims' acceptance of it. The Event Study approach complements the RDD by examining this dynamic dimension. To examine these dynamic effects, I compare observationally equivalent couples living in states where husbands can legally drink at 21 (treated) to couples in states where drinking is legal at 25, using Equation 2. Figure 3 displays the estimates with 90% confidence intervals. First, estimates in Figure 3a show that when husbands become legally allowed to drink in MLDA-21 states, their alcohol consumption increases relative to MLDA-25 states. The pre-treatment coefficient is insignificant and close to zero, indicating no difference in alcohol consumption between MLDA-21 and MLDA-25 states for husbands aged 19 or below. After 4 years of legal drinking eligibility within marriage, husbands in MLDA-21 states are 14.5 percentage points more likely to drink compared to their counterparts in MLDA-25 states. Turning to abuse duration, Figure 3b shows that pre-treatment coefficients are insignificant and near zero, suggesting no difference between MLDA-21 and MLDA-25 states before age 21. After legal drinking age, the length of exposure to violence gradually increases in MLDA-21 states relative to MLDA-25 states. After 4 years of legal drinking eligibility, women report abuse duration approximately 5 months higher (0.38 years) compared to MLDA-25 states. Figure 3c examines the inverse-covariance–weighted index of tolerance towards violence. Pre-treatment coefficients are insignificant and near zero, indicating no initial differences between MLDA-21 and MLDA-25 states. While the first three post-treatment periods show no change in women's tolerance of violence, after four years of husband's legal drinking eligibility, women in MLDA-21 states show

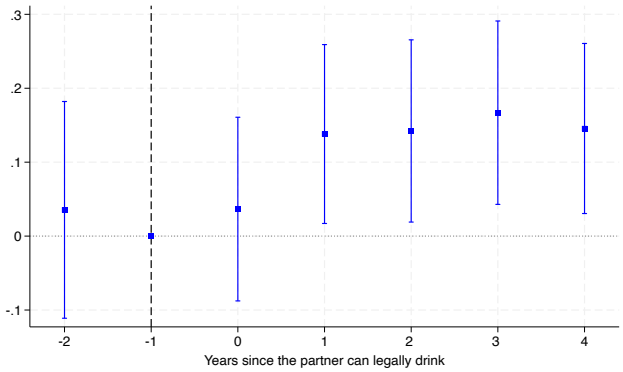
significantly higher tolerance. Specifically, the tolerance index increases by 0.23, which corresponds to approximately a 0.3-standard-deviation increase.

These figures suggest that the longer the women are in an abusive relationship, the more likely they are to become tolerant towards violence if they have limited outside options.

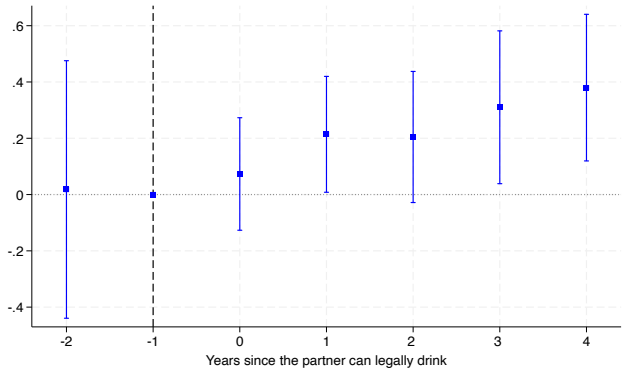
Finally, Figure 4 addresses potential selection issues regarding couples who married after the legal drinking age, by restricting the sample to men married before age 21. In this specification, the event dummies reflect the husband's age at the time of the interview. The coefficients align closely with the main results in Figure 3.

Figure 3: Long-term effects

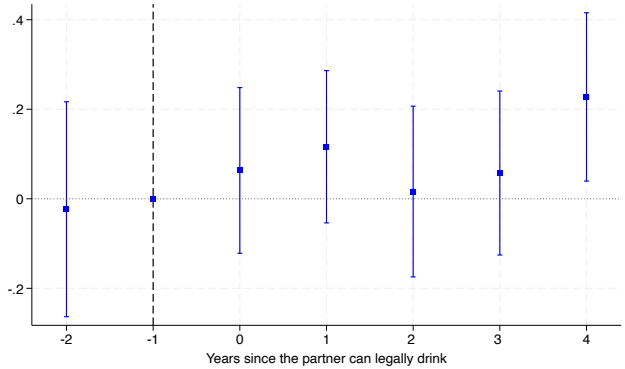
(a) Husband's alcohol cosumption



(b) Duration of abuse (years)



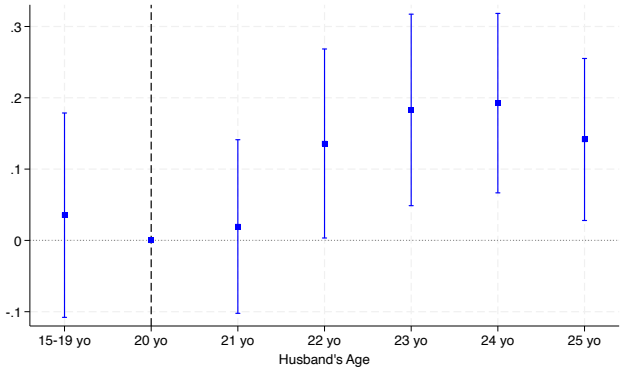
(c) Women's tolerance towards wife-beating



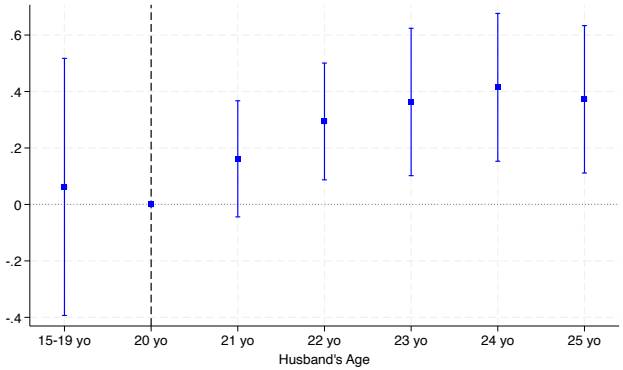
Note: Figure 3 displays the coefficient β from equation 2. The y-axis represents the estimated coefficients of the interaction between the years within marriage during which the partner can legally drink in states with an MLDA of 21 compared to those with an MLDA of 25. The event is defined as the years during the marriage when the partner becomes legally permitted to drink. The x-axis indicates the number of years within the marriage that the partner can legally drink. Omitted Category: Individuals aged 20 at the time of the interview. The sample is restricted to couples where the husband's age at the time of the interview is between 15 and 25 years. Specifically, the period labeled as -1 groups together husbands who were between 15 and 19 years old at the time of the interview. The capped vertical bars represent 90% confidence intervals, calculated using robust standard errors clustered at both the state and age-at-interview levels. *Source*: Own estimations based on the National Family Health Survey (NFHS) from the years 2005, 2015, and 2020.

Figure 4: Long-term effects - Restricting the Sample to Men who got married before 21

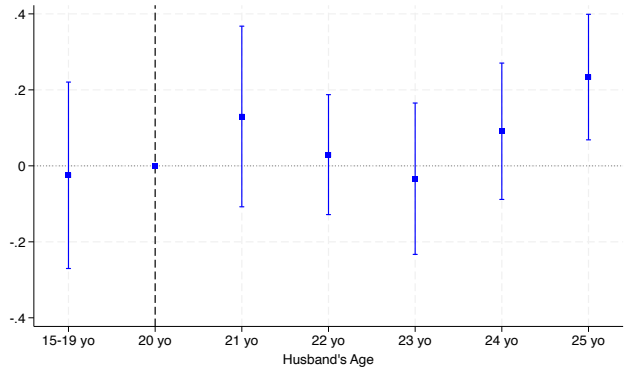
(a) Husband's alcohol cosumption



(b) Duration of abuse (years)



(c) Women's tolerance towards wife-beating



Note: Figure 4 reports the coefficient of the β from equation 2. The y-axis reports the estimated coefficient of the interaction between the years within marriage in which the partner can legally drink in states where the MLDA is 21 vs MLDA at 25. The event is identified as the years of being legally allowed to drink within the marriage. The x-axis represents years within the marriage the partner can legally drink. Omitted category: individuals aged 20 at the time of the interview. The sample is restricetd to couples whose husbands' age is between 19 and 25. The capped vertical bars show 90% confidence intervals calculated using robust standard errors clustered at the at the state and age at the interview level. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

6.5.1 Alternative mechanisms

In the following paragraphs, I discuss alternative mechanisms through which the legal drinking age may have affected women's tolerance towards violence, aside from a direct change in the prevalence of violence.

First, women's attitudes towards violence might be affected by a change in men's attitudes. Once they reach the legal drinking age, men might be more likely to attend bars/restaurants and create new social networks. Such interactions might subsequently shape their own attitudes towards violence and lead to a change in their wives' attitudes. I examine this potential channel by testing whether being legally allowed to drink affects men's attitudes towards wife-beating. Column (1) of Table 5 shows that being above the legal drinking age has no significant effect on men's attitudes towards wife-beating in the short term. Figure 5a shows long-term effects on men's attitudes towards wife-beating. The coefficients are insignigficant and imprecisely estimated. The signs of the coefficients are negative, in the opposite direction to women's attitudes. Thus it is unlikely that women's attitudes are affected by a change in their husbands' view. Thus I conclude that this mechanism is unlikely to be at work in this setting.

Second, women's attitudes towards violence could be influenced by the husband's economic activities. If he spends more of his income on alcohol, the household's resources may decline, creating financial distress that could alter bargaining power and, in turn, affect women's attitudes toward violence—even without changing the actual prevalence of IPV. Because the DHS does not include data on income or wages, I approximate the husband's economic situation using his current unemployment status. For instance, if men experience higher unemployment after reaching the MLDA due to increased drinking, the resulting household stress might influence women's tolerance of violence. To test this channel, I examine whether the minimum legal drinking age raises the likelihood of men being unemployed. In the short run (Column (2) of Table 5), the effect is insignificant. Figure 5b shows that the long-run estimates are similarly imprecise, indicating that unemployment is unlikely to be the primary channel driving this effect.

Third, women's attitudes might be affected by migration. For instance, if men migrate to states with different alcohol regulations, their interactions with women of diverse cultural backgrounds can subsequently shape women's perspectives on violence. To test this potential mechanism, I examine whether the being above the MLDA increases men's likelihood to migrate.[34] Column (3) of Table 5 indicates that there is no significant effect on the probability of the husband to migrate. Figure 5c confirms the short-term effect; the coefficients are all insignificant. Thus, I can rule out the migration

[34]The NFHS asks how many years the respondent has been living in the place in which he has been interviewed. I created an indicator variable taking value one if the respondent answers that he has always been living in the same location of the interview, and 0 otherwise.

mechanism too.

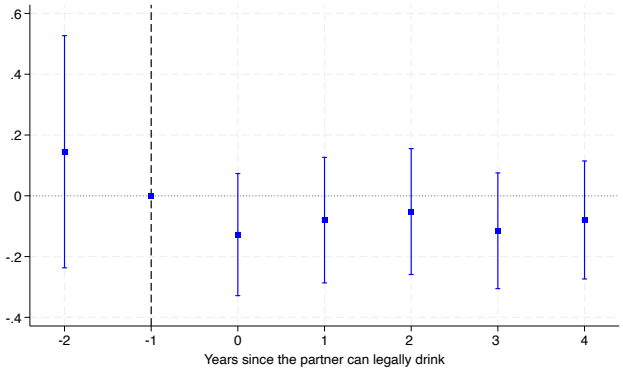
Table 5: Alternative Mechanisms, Short-term

	Husband's attitudes (1)	Husband's unemployment (2)	Husband ever migrated (3)
Above MLDA	-0.022	-0.014	-0.047
SE	0.099	0.026	0.038
P-Value	0.886	0.607	0.193
Left BW	33	35	34
Right BW	119	123	77
N	4,508	4,730	3,047
Mean of control	0.025	0.065	0.634

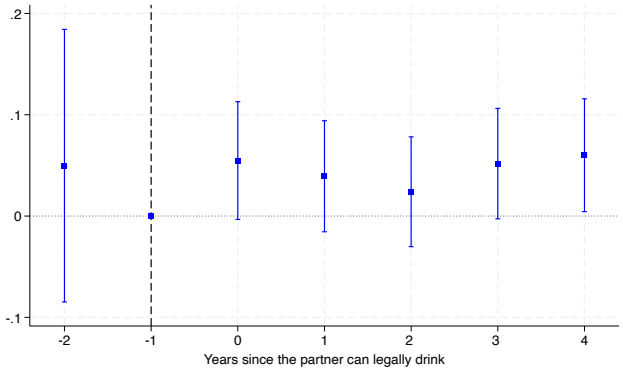
Notes: Table 5 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is a inverse covariance weighted index following Anderson (2008a) that combines husbands' justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. The dependent variable of column (2) is a binary variable coded as one if the husband is unemployed. The dependent variable of column (3) is a binary variable coded as one if the husband never migrated. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p $<$ 0.1; ** p $<$0.05; *** p $<$0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Figure 5: Alternative Mechanisms, Long Term

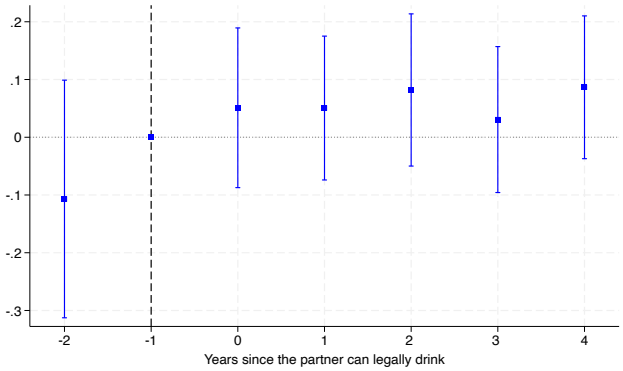
(a) Husbands' attitudes towards violence



(b) Husbands' Unemployment



(c) Husbands' Migration



Note: Figure 5 reports the coefficient of the β from equation 2. The y-axis reports the estimated coefficient of the interaction between the years within marriage in which the partner can legally drink in states where the MLDA is 21 vs MLDA at 25. The event is identified as the years of being legally allowed to drink within the marriage. The x-axis represents years within the marriage the partner can legally drink. Omitted category: individuals aged 20 at the time of the interview. The sample is restricetd to couples whose husbands' age is between 15 and 25. The capped vertical bars show 90% confidence intervals calculated using robust standard errors clustered at the at the state and age at the interview level. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

7 Implications

Despite being one of the most widespread violations of human rights, Intimate Partner Violence is at the same time one of the least reported forms of crime (Palermo et al., 2014), especially in developing countries Soares (2004). The role of attitudes in reporting beahviour is crucial– Amaral et al. (2023) show that while visible police presence in Hyderabad (India) reduces severe forms of sexual harassment because it increases the cost for perpetrators, it fails to affect mild forms of sexual harassment, due to the police officers' tolerant attitudes towards harassment. This heterogeneity sheds light on the importance of attitudes in shaping help-seeking behavior.

Building up on these findings, I examine how tolerance for IPV influences help-seeking from formal institutions. The NFHS asks women aged 15-49 selected and interviewed for the domestic violence module and who have ever experienced any physical or sexual violence by anyone, whether they sought help to stop this violence, either informally (e.g., friends, family members) or formally. I analyze women's help-seeking patterns through formal channels. I focus on institutional help—social services, police, religious leaders, lawyers, and doctors—as these channels can increase the opportunity cost of violence. Table 6 presents this analysis. The outcome of the first column is an indicator variable taking value one if the woman sought help from any institution. $EverIPV$ is a binary variable taking value one if the woman reports having experienced any physical or sexual violence from her current husband; $ToleranceIndex \times EverIPV$ is the interaction between an IPV-tolerance index and the experience of violence and captures how tolerance moderates the relationship between violence and help-seeking. The results indicate that victims of intimate partner violence (IPV) are more likely to seek institutional help than victims of other forms of violence. However, this relationship decreases with higher levels of tolerance for IPV, as shown by the coefficient on the interaction term. Specifically, a one-unit increase in the tolerance index reduces the effect of experiencing violence on formal help-seeking by 0.4 percentage points—roughly a 36% decrease relative to the mean. When breaking down the formal help-seeking indicator, this reduction is most pronounced for social services, police, and legal assistance.

Table 6: Tolerance towards violence and Seeking Help Behaviour

	Seek Help from					
	Any Institution	Social Service	Police	Religious Leader	Lawyer	Doctor
	(1)	(2)	(3)	(4)	(5)	(6)
Ever IPV	0.006***	0.001*	0.003**	0.002***	0.001**	0.001*
	[0.000]	[0.079]	[0.021]	[0.003]	[0.010]	[0.052]
Tolerance Index × Ever IPV	-0.004**	-0.002***	-0.003*	0.000	-0.001**	-0.001
	[0.015]	[0.001]	[0.062]	[0.905]	[0.032]	[0.149]
Mean Dep. Var.	0.011	0.002	0.007	0.003	0.002	0.001
Observations	61,999	61,999	61,999	61,999	61,999	61,999
Adjusted R-squared	0.005	0.006	0.004	0.002	0.004	0.001

Notes: The table shows the relationship between IPV-Acceptance and seeking help from formal institutions. Any Institution is a dummy equal to one if the woman sought help from at least one of the following sources: social services, police, religious leaders, lawyers, or doctors. Each type of help (social services, police, religious leaders, lawyers, doctors) is coded as a binary variable equal to one if the woman sought that specific type of help, and zero otherwise. These help-seeking questions were asked to both women who reported experiencing physical or sexual IPV and those who experienced other forms of violence (e.g., from family members, teachers). Controls include: age, caste, years of schooling, urban/rural residence, timing of interview, and religion. All regressions include state and year-wave fixed effects. Wild-Bootstrap standard errors clustered at state level. P-values reported in square brackets. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020) – (IR) Individual Survey.

8 Conclusions

This paper studies the relationship between intimate partner violence and victims' tolerance towards it in India, where women's external exit options are very restricted or costly. Specifically, I investigate if victims' tolerance of violence serves as a coping mechanism, and how this mechanism may differ from short-term to prolonged abuse exposure. To understand the dynamics of attitudes towards intimate partner violence in the short- and long-term effect, I propose a conceptual framework that analyses how women in settings with constrained outside options, adjust their tolerance to violence based on their husbands' potential abusive behaviour. By exploiting the variation within and across Indian States and combining it with the date of birth of the husbands, I explore whether women who are abused by their intimate partners are more likely to condone violence, and to explore whether this potential coping mechanism evolves over time.

There are three main take-aways from this study. First, the attainment of the legal drinking age by husbands significantly increases their wives' probability of being abused. Second, a rise in the prevalence of intimate partner violence in the short term does not lead to a shift in the victims' attitudes toward violence. Instead, the duration of abuse is a key factor. Third, evidence indicates that long term exposure to violence shifts women's attitudes towards violence. This suggests that over time, victims may normalise and rationalise the violence inflicted to them as a coping mechanism, if they do not have an outside option.

The paper identifies several potential avenues for future research. First, this study suggests that in contexts where outside options like divorce are stigmatised, tolerance of violence might act as coping mechanism for intimate partner violence victims. However, examining this relationship in settings where divorce, for instance, is less stigmatised remains an unexplored area, that deserves further investigation. Second, this paper highlights two potential main mechanisms behind women's tolerance of violence: the coping mechanism, and the risk factor mechanism (i.e., women with prior higher tolerance of violence tend to select into abusive relationships). An exploration of the interplay of the two mechanisms and their quantification can further advance our understanding of victims' attitude formation.

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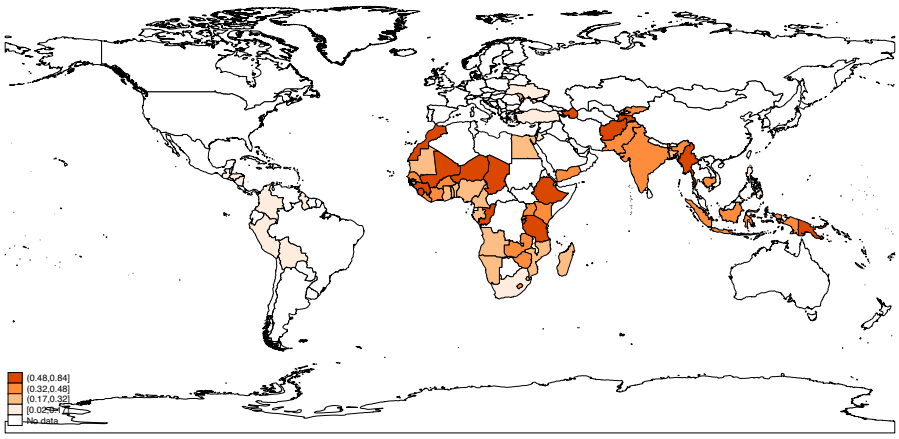
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A Appendix

A.1 Descriptives

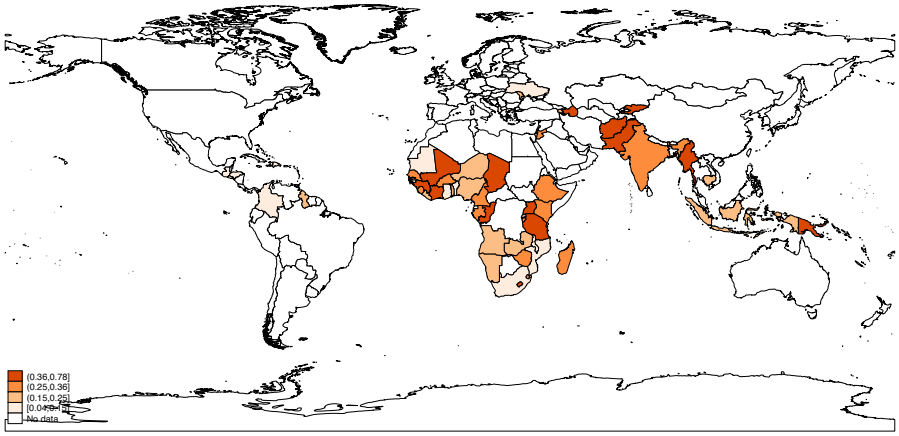
A.1.1 Women's and Men's tolerance of wife-beating across the world

Figure A6: Women's Tolerance



Note: The map shows the country average women's tolerance towards violence if the wife: i) goes out without permission, ii) neglects the children, iii) argues with the husband, iv) burns food, v) refuses sexual intercourse. Sample weights are applied to ensure representativeness at the country level. *Source*: Demographic and Health Survey (DHS - latest survey rounds). For Ethiopia and Ghana, the latest survey rounds did not include questions on attitudes towards wife-beating; therefore, data from previous rounds (2016 and 2014, respectively) have been used.

Figure A7: Men's Tolerance



Note: The map shows the country average women's tolerance towards violence if the wife: i) goes out without permission, ii) neglects the children, iii) argues with the husband, iv) burns food, v) refuses sexual intercourse. Sample weights are applied to ensure representativeness at the country level. *Source*: Demographic and Health Survey (DHS - latest survey rounds). For Ethiopia and Ghana, the latest survey rounds are not available for men; therefore, data from previous rounds (2016 and 2014, respectively) have been used.

Table A7: Women's tolerance towards wife-beating in 5 scenarios

Country Round	Goes out w/out permission	Neglects the Children	Argues with the husband	Burns food	Refuses sex	Indicator
Afghanistan 2015	0.72	0.53	0.64	0.20	0.38	0.84
Albania 2017-2018	0.04	0.05	0.02	0.01	0.01	0.07
Angola 2015	0.15	0.17	0.16	0.11	0.12	0.25
Armenia 2015-2016	0.05	0.09	0.06	0.01	0.00	0.11
Azerbajan 2006	0.46	0.37	0.34	0.16	0.13	0.53
Bangladesh 2014	0.14	0.15	0.20	0.04	0.07	0.28
Benin 2017-18	0.21	0.23	0.21	0.14	0.13	0.31
Bolivia 2008	0.06	0.12	0.05	0.02	0.03	0.16
Burkina faso 2010	0.30	0.30	0.31	0.10	0.20	0.43
Burundi 2016	0.39	0.52	0.30	0.22	0.42	0.59
Cambodia 2021-2022	0.21	0.32	0.16	0.09	0.08	0.38
Cameroon 2018	0.16	0.23	0.15	0.09	0.11	0.28
Chad 2014	0.62	0.63	0.53	0.51	0.44	0.75
Colombia 2015-2016	0.01	0.02	0.01	0.01	0.01	0.03
Comoros 2012	0.30	0.31	0.17	0.22	0.14	0.42
Congo democratic republic 2013-14	0.50	0.53	0.59	0.25	0.46	0.73
Cote d'ivoire 2011	0.27	0.33	0.35	0.17	0.22	0.47
Dominican republic 2013	0.01	0.02	0.01	0.00	0.01	0.02
Egypt 2014	0.26	0.24	0.13	0.07	0.20	0.32
Eswatini 2006	0.09	0.11	0.17	0.03	0.03	0.23
Ethiopia 2016	0.44	0.48	0.43	0.40	0.35	0.62
Gabon 2019-2021	0.08	0.24	0.17	0.05	0.03	0.30
Gambia 2019-2020	0.35	0.36	0.22	0.37	0.11	0.52
Ghana 2014	0.17	0.21	0.16	0.07	0.12	0.27
Guatemala 2014-2015	0.04	0.08	0.03	0.02	0.04	0.10
Guinea 2018	0.55	0.54	0.51	0.24	0.50	0.66
Guyane 2009	0.06	0.12	0.07	0.05	0.04	0.17
Haiti 2016-2017	0.11	0.10	0.02	0.05	0.04	0.16
Honduras 2011-2012	0.04	0.10	0.05	0.02	0.04	0.12
India 2019-2021	0.19	0.28	0.22	0.11	0.14	0.37
Indonesia 2017	0.19	0.28	0.04	0.06	0.02	0.33
Jordan 2017-18	0.07	0.07	0.06	0.02		0.14
Kenya 2014	0.22	0.34	0.21	0.07	0.15	0.41
Kyrgyz rep. 2012	0.25	0.28	0.18	0.08	0.07	0.37
Lesotho 2014	0.11	0.22	0.25	0.06	0.10	0.33
Liberia 2013	0.29	0.32	0.33	0.07	0.11	0.42
Madagascar 2008	0.20	0.29	0.06	0.07	0.09	0.32
Malawi 2016	0.07	0.09	0.07	0.06	0.08	0.15
Maldives 2016-2017	0.05	0.16		0.10		0.23
Mali 2018	0.54	0.52	0.69	0.23	0.64	0.77
Mauritania 2019-2021	0.17	0.17	0.17	0.21	0.07	0.28
Moldova 2004	0.07	0.19	0.05	0.03	0.04	0.22
Morocco 2003	0.50	0.50	0.51	0.24	0.45	0.62
Mozambique 2011	0.09	0.08	0.13	0.06	0.06	0.21
Myanmar 2015-2016	0.23	0.44	0.11	0.12	0.13	0.55
Namibia 2013	0.13	0.20	0.12	0.10	0.08	0.29
Nicaragua 2001	0.08	0.13	0.06	0.04	0.06	0.16
Niger 2012	0.44	0.43	0.51	0.35	0.52	0.58
Nigeria 2018	0.21	0.22	0.20	0.15	0.20	0.27
Pakistan 2017-18	0.32	0.28	0.32	0.19	0.28	0.41
Papua new guinea 2016-2018	0.55	0.64	0.46	0.36	0.37	0.74
Peru 2012	0.01	0.02	0.01	0.01	0.01	0.03
Philippines 2022	0.02	0.07	0.02	0.01	0.01	0.09
Rwanda 2014	0.22	0.30	0.21	0.09	0.25	0.36
Sao tome 2008-2009	0.11	0.12	0.07	0.06	0.07	0.20
Senegal 2017	0.33	0.36	0.36	0.22	0.36	0.44
Sierra leone 2019	0.39	0.38	0.40	0.19	0.12	0.49
South africa 2016	0.02	0.04	0.02	0.01	0.01	0.05
Tajikistan 2017	0.57	0.55	0.58	0.32	0.33	0.70
Tanzania 2015	0.42	0.49	0.43	0.20	0.32	0.58
Togo 2013	0.18	0.19	0.20	0.11	0.10	0.29
Turkey 2018-2019	0.03	0.06	0.04	0.02	0.01	0.09
Uganda 2016	0.30	0.39	0.26	0.14	0.18	0.48
Ukraine 2009	0.00	0.03	0.01	0.01	0.00	0.04
Yemen 2013	0.36	0.31	0.20	0.22	0.22	0.47
Zambia 2018	0.27	0.32	0.33	0.22	0.31	0.44
Zimbabwe 2015	0.23	0.22	0.17	0.08	0.15	0.37
Weighted Average	0.22	0.25	0.20	0.12	0.15	0.34

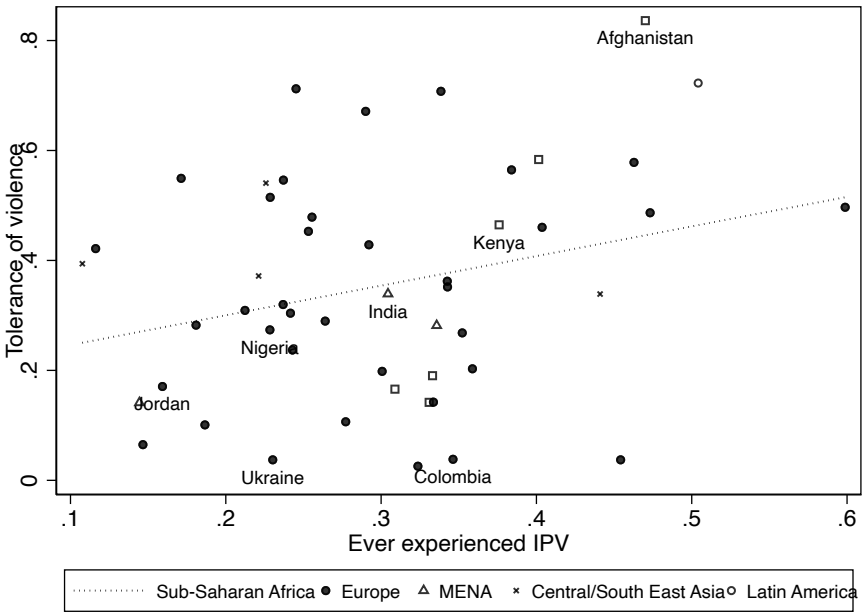
Notes: Table A7 presents the average tolerance for wife-beating at the country level among women. The first column indicates the survey round for each country. Subsequent columns display the average tolerance among women for wife-beating in various scenarios, specifically if the wife: i) goes out without permission, ii) neglects the children, iii) argues with the husband, iv) burns food, or v) refuses sexual intercourse. The final column includes an indicator that equals 1 if respondents consider wife-beating acceptable in at least one scenario, and 0 otherwise. Responses of "I don't know" are coded as missing. The last row presents the global weighted average. Sample weights are applied to ensure representativeness at the country level. To calculate the global average, survey sampling weights are reweighted by each country's female population (ages 15–64) in the survey year. Population data come from the World Development Indicators. *Source*: Demographic and Health Survey (DHS - latest survey rounds). For Ethiopia and Ghana, the latest survey rounds did not include questions on attitudes towards wife-beating; therefore, data from previous rounds (2016 and 2014, respectively) have been used.

Table A8: Men's tolerance towards wife-beating in 5 scenarios

Country Round	Goes out w/out permission	Neglects the Children	Argues with the husband	Burns food	Refuses sex	Indicator
Afghanistan 2015	0.63	0.28	0.48	0.09	0.21	0.74
Albania 2017-2018	0.07	0.08	0.04	0.01	0.02	0.12
Angola 2015	0.08	0.12	0.11	0.06	0.06	0.19
Armenia 2015-2016	0.12	0.18	0.17	0.01	0.02	0.24
Azerbaijan 2006	0.42	0.38	0.57	0.07	0.12	0.64
Benin 2017-18	0.09	0.09	0.10	0.07	0.07	0.14
Burkina faso 2010	0.17	0.19	0.20	0.07	0.11	0.32
Burundi 2016	0.17	0.25	0.10	0.05	0.13	0.32
Cambodia 2021-2022	0.07	0.11	0.08	0.02	0.04	0.16
Cameroon 2018	0.15	0.23	0.14	0.06	0.08	0.28
Chad 2014	0.29	0.38	0.23	0.28	0.25	0.50
Colombia 2015-2016	0.02	0.03	0.02	0.01	0.01	0.04
Comoros 2012	0.07	0.08	0.06	0.03	0.08	0.14
Congo democratic republic 2013-14	0.33	0.39	0.42	0.15	0.24	0.58
Cote d'ivoire 2011	0.22	0.28	0.25	0.12	0.12	0.41
Dominican republic 2013	0.02	0.02	0.01	0.01	0.01	0.04
Eswatini 2006	0.15	0.15	0.23	0.04	0.04	0.31
Ethiopia 2016	0.17	0.19	0.16	0.12	0.13	0.27
Gabon 2019-2021	0.10	0.24	0.20	0.03	0.03	0.32
Gambia 2019-2020	0.22	0.21	0.14	0.07	0.15	0.33
Ghana 2014	0.07	0.08	0.06	0.03	0.05	0.12
Guatemala 2014-2015	0.02	0.04	0.02	0.01	0.01	0.07
Guinea 2018	0.38	0.43	0.33	0.17	0.26	0.53
Guyana 2009	0.07	0.14	0.08	0.04	0.04	0.20
Haiti 2016-2017	0.06	0.05	0.01	0.02	0.02	0.09
Honduras 2011-2012	0.03	0.07	0.04	0.03	0.02	0.09
India 2019-2021	0.15	0.22	0.20	0.10	0.10	0.33
Indonesia 2017	0.08	0.14	0.02	0.00	0.02	0.17
Jordan 2017-2018	0.19	0.13	0.18	0.08		0.31
Kenya 2014	0.19	0.27	0.21	0.05	0.10	0.36
Kyrgyz rep. 2012	0.38	0.48	0.25	0.05	0.06	0.54
Lesotho 2014	0.16	0.26	0.25	0.06	0.09	0.38
Liberia 2013	0.14	0.15	0.18	0.03	0.04	0.24
Madagascar 2008	0.18	0.24	0.09	0.06	0.08	0.29
Malawi 2016	0.05	0.06	0.05	0.02	0.05	0.12
Maldives 2016-2017	0.03	0.15			0.05	0.19
Mali 2018	0.22	0.25	0.38	0.11	0.24	0.45
Mauritania 2019-2021	0.06	0.06	0.06	0.04	0.06	0.09
Moldova 2004	0.10	0.19	0.08	0.03	0.04	0.23
Mozambique 2011	0.06	0.07	0.08	0.01	0.09	0.15
Myanmar 2015-2016	0.17	0.41	0.14	0.08	0.11	0.50
Namibia 2013	0.10	0.14	0.09	0.04	0.03	0.21
Niger 2012	0.15	0.15	0.19	0.09	0.14	0.25
Nigeria 2018	0.12	0.11	0.12	0.07	0.11	0.19
Pakistan 2017-18	0.28	0.19	0.20	0.04	0.09	0.37
Papua new guinea 2016-2018	0.53	0.67	0.42	0.30	0.21	0.78
Rwanda 2014	0.07	0.12	0.05	0.02	0.06	0.15
Sao tome 2008-2009	0.12	0.14	0.10	0.07	0.06	0.22
Senegal 2017	0.14	0.17	0.18	0.06	0.11	0.26
Sierra Leone 2019	0.17	0.19	0.24	0.06	0.09	0.30
South Africa 2016	0.04	0.06	0.04	0.02	0.01	0.09
Tanzania 2015	0.23	0.31	0.25	0.06	0.14	0.39
Togo 2013	0.10	0.12	0.10	0.06	0.05	0.17
Uganda 2016	0.22	0.28	0.23	0.07	0.12	0.39
Ukraine 2009	0.04	0.10	0.05	0.01	0.02	0.12
Zambia 2018	0.12	0.15	0.14	0.06	0.10	0.23
Zimbabwe 2015	0.18	0.18	0.14	0.06	0.06	0.31
Weighted Average	0.16	0.20	0.17	0.08	0.09	0.30

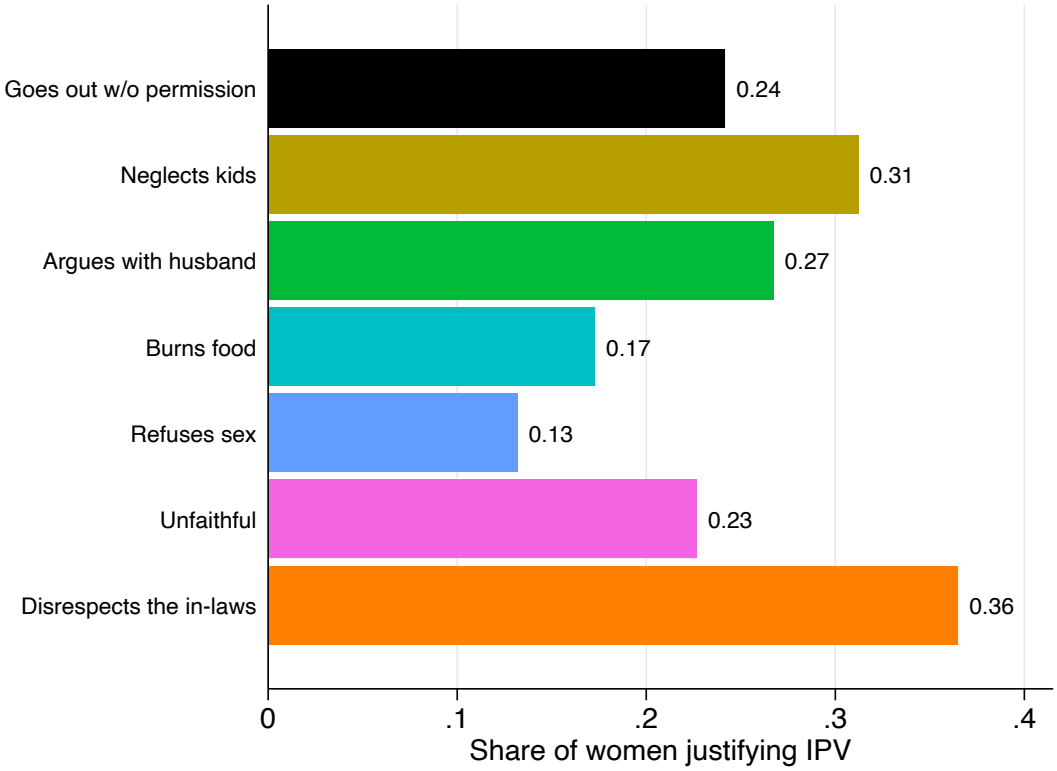
Notes: Table A8presents the average tolerance for wife-beating at the country level among men. The first column indicates the survey round for each country. Subsequent columns display the average tolerance among men for wife-beating in various scenarios, specifically if the wife: i) goes out without permission, ii) neglects the children, iii) argues with the husband, iv) burns food, or v) refuses sexual intercourse. The final column includes an indicator that equals 1 if respondents consider wife-beating acceptable in at least one scenario, and 0 otherwise. Responses of "I don't know" are coded as missing. The last row presents the global weighted average. Sample weights are applied to ensure representativeness at the country level. To calculate the global average, survey sampling weights are reweighted by each country's male population (ages 15–64) in the survey year. Population data come from the World Development Indicators. *Source*: Demographic and Health Survey (DHS - latest survey rounds). For Ethiopia and Ghana, the latest survey rounds are not available for men; therefore, data from previous rounds (2016 and 2014, respectively) have been used.

Figure A8: Average tolerance of violence and prevalence of IPV



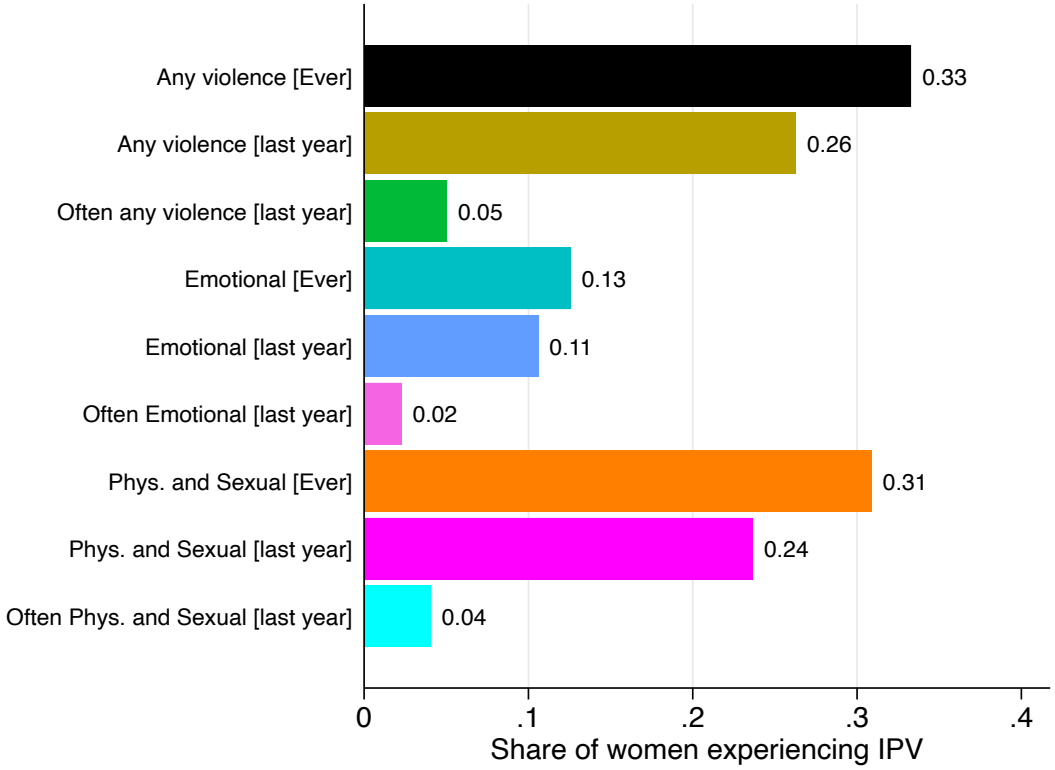
Note: The figure presents the positive correlation between the tolerance of IPV and experience of violence at country level. The y axis represents the country average women's tolerance of violence, and the x axis the country average experience of intimate partner violence during women's lifetime. Sample weights are applied to ensure representativeness at the country level. *Source:* Demographic and Health Survey (DHS - last survey rounds).

Figure A9: Women's tolerance of violence in India



Note: The figure presents the share of women who justifies violence if she (i) argues with the husband, (ii) neglects kids, (iii) goes out without permission, (iv) burns food, (v) refuses sexual intercourse, (vi) is unfaithful and (vii) disrespects the in-laws. Sample restricted to couples residing in states where the MLDA is 21 and 25. *Source:* Own calculations using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A10: Prevalence of IPV in the last 12 months in India



Note: The figure presents the share of women who reported to have ever or in the last 12 months experienced emotional, physical, and sexual violence from their current partner, along with the frequency of the abuse. Sample restricted to couples residing in states where the MLDA is 21 and 25. *Source:* Own calculations using the National Family Health Survey (NFHS 2005-2015-2020).

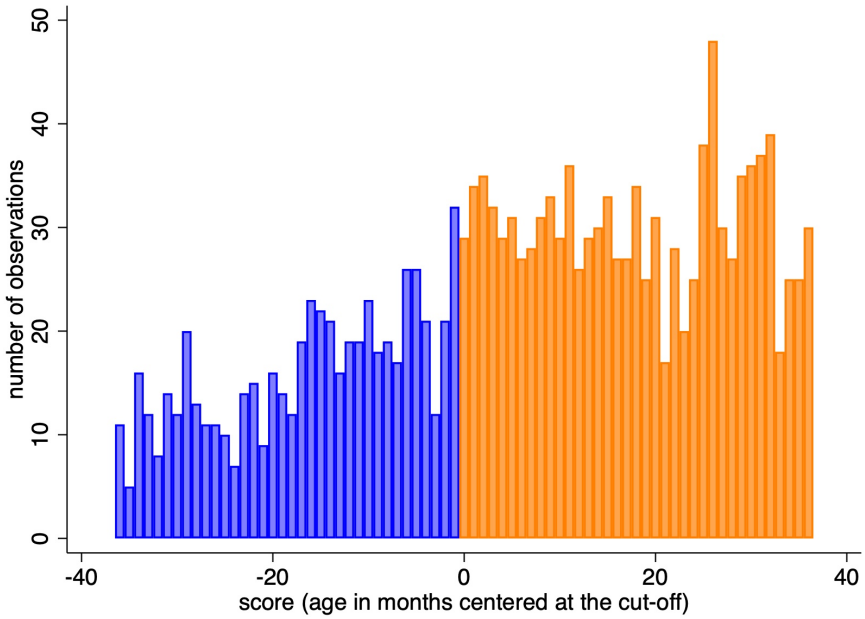
Table A9: Descriptive Statistics Full Sample, MLDA 21, MLDA 25

	MLDA 21	MLDA 25	Total
Age (Men)	23.31	23.47	23.33
	(1.78)	(1.60)	(1.75)
Age (Women)	20.94	21.37	21.01
	(2.38)	(2.71)	(2.44)
Age at Marriage (Men)	20.10	20.56	20.18
	(2.36)	(2.42)	(2.38)
Age at Marriage (Women)	17.61	18.30	17.72
	(2.42)	(2.67)	(2.48)
Duration Marriage (yrs)	2.90	2.67	2.86
	(2.43)	(2.51)	(2.44)
Exposure to Violence (yr)	0.66	0.38	0.61
	(1.56)	(1.14)	(1.50)
Exposure to Violence conditional on Ever IPV	2.55	2.30	2.52
	(2.13)	(1.88)	(2.11)

Notes: The table presents the summary statistics for the sample used in the Event Study approach. The sample is restricted to individuals between 15 and 25 years old. The first column provides the descriptive statistics for individuals residing in states where the MLDA is set at 21, the second column for individuals residing in states where the MLDA is set at 25, and the third column shows the total sample statistics. *Source*: Own calculations using the National Family Health Survey (NFHS 2005-2015-2020).

A.2 Figures

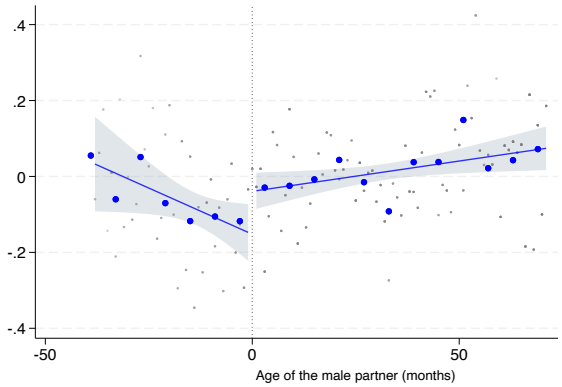
Figure A11: Assumption 1: no manipulation in the treatment status



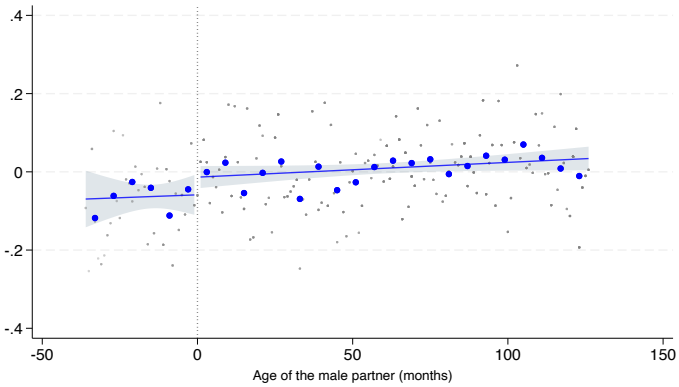
Note: The figure presents the distribution of the running variable. Bins are of size 1 in a 36 months bandwidth around the cutoff at 0 (that corresponds to husband's age in months centred around 25 years old and 0 month). *Source:* Own calculations using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A12: MLDA Discontinuity, Lower Caste Sample

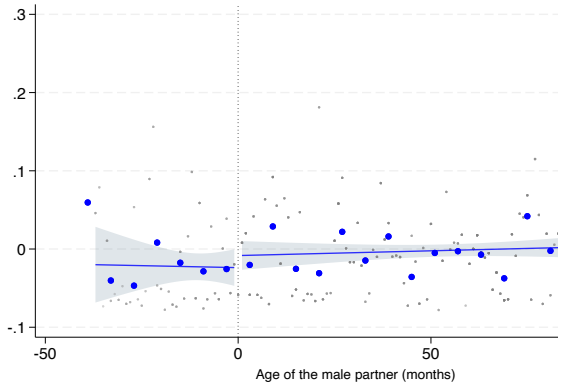
(a) MLDA discontinuity: Husband's alcohol consumption



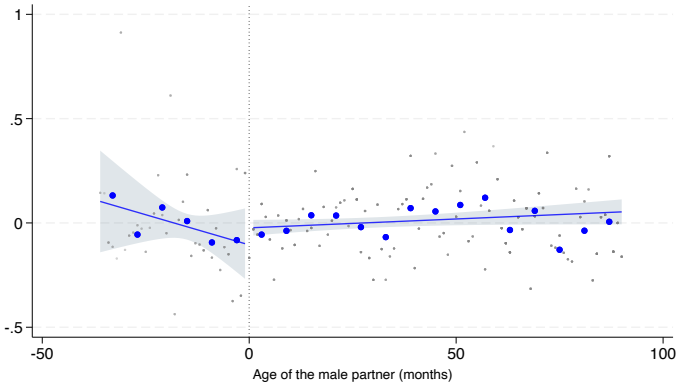
(b) MLDA discontinuity: IPV [last 12 months]



(c) MLDA discontinuity: Frequent IPV



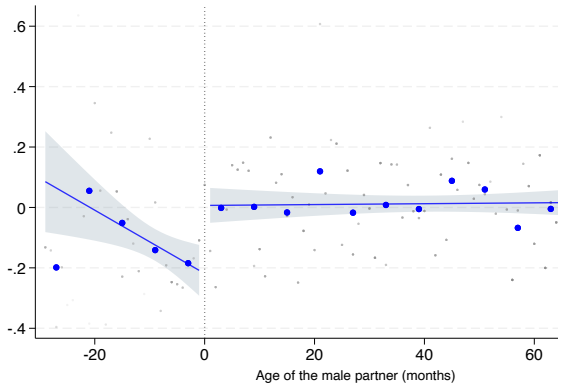
(d) MLDA discontinuity: Tolerance towards IPV



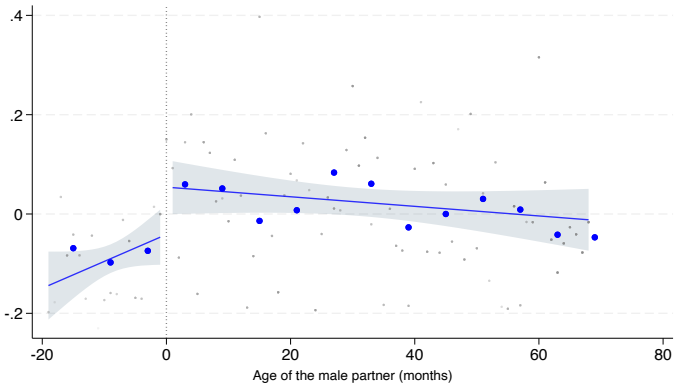
Note: The Figure A12 presents the residualised values of husband's alcohol consumption/wife's prevalence of IPV/ tolerance towards violence (Anderson, 2008a) (after controlling for all variables in the main specification 1) against the age of the husband in months (X-axis), in MSE-optimal bandwidths and applying triangular kernels. The blue circles represent the average of the outcome at score bins of size 6. In sub-figure A12a the outcome variable is a dummy taking value one if the husband consumes alcohol. In sub-figure A12b the outcome variable is a dummy taking value one if the wife reports to have been victim of IPV in the last 12 months. In sub-figure A12c the outcome variable is a dummy taking value one if the wife reports to have been victim of IPV often in the last 12 months. In Figure A12d the outcome variable is a variance-weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if she argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. State, year-wave, and time of the interview fixed effects included. *Source:* Own estimation using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A13: MLDA Discontinuity, Upper Caste Sample

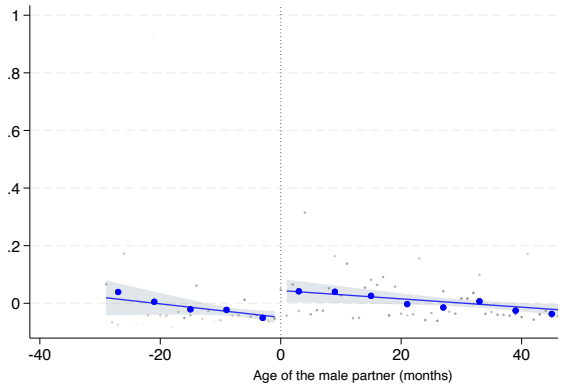
(a) MLDA discontinuity: Husband's alcohol cosumption



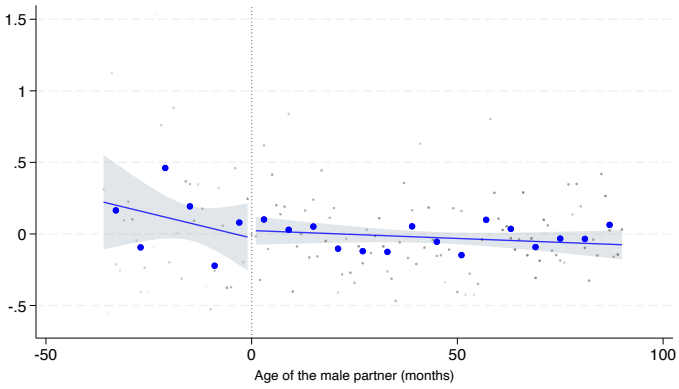
(b) MLDA discontinuity: IPV [last 12 months]



(c) MLDA discontinuity: Frequent IPV [last 12 months]



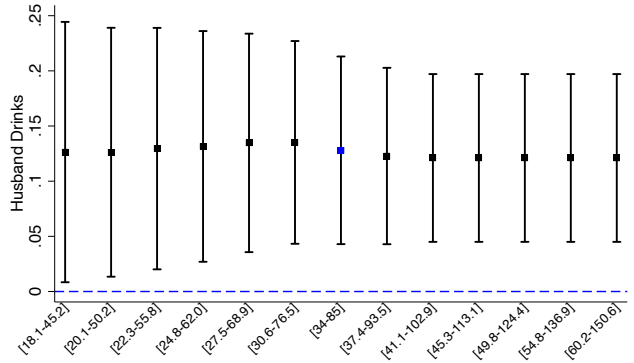
(d) MLDA discontinuity: Tolerance towards IPV



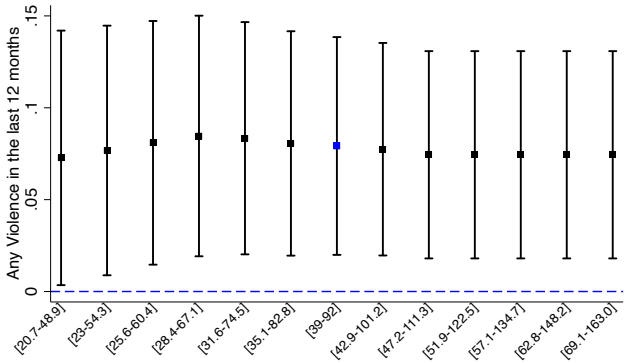
Note: The Figure A13 presents the residualised values of husband's alcohol consumption/wife's prevalence of IPV/ tolerance towards violence (Anderson, 2008a) (after controlling for all variables in the main specification 1) against the age of the husband in months (X-axis), in MSE-optimal bandwidths and applying triangular kernels.The blue circles represent the average of the outcome at score bins of size 6. In sub-figure A13a the outcome variable is a dummy taking value one if the husband consumes alcohol. In sub-figure A13b the outcome variable is a dummy taking value one if the wife reports to have been victim of IPV in the last 12 months. In sub-figure A13c the outcome variable is a dummy taking value one if the wife reports to have been victim of IPV often in the last 12 months. In Figure A13d the outcome variable is a inverse covariance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. State, year-wave and time of the interview fixed effects included. *Source:* Own estimation using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A14: Short Term Results: Bandwidth Sensitivity

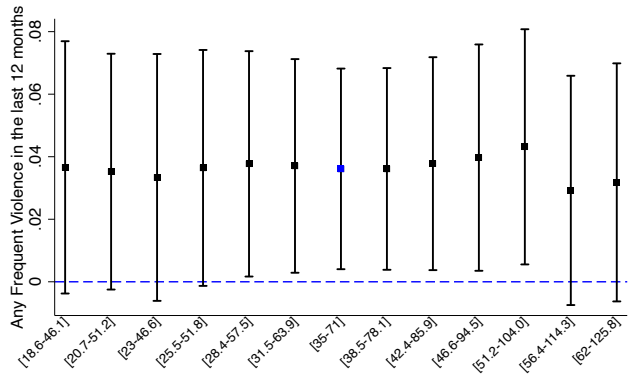
(a) Effect of MLDA on husband's alcohol consumption, with alternative bandwidths



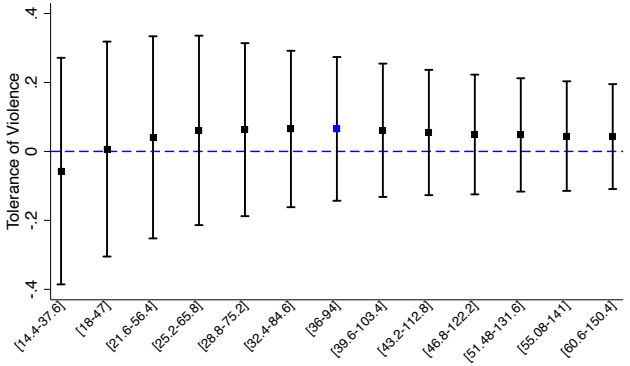
(b) Effect of MLDA on prevalence of violence in the last 12 months, with alternative bandwidths



(c) Effect of MLDA on **frequence** prevalence of IPV in the last 12 months, with alternative bandwidths



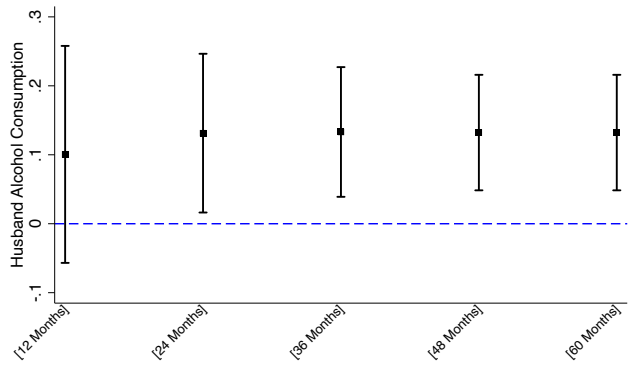
(d) Effect of MLDA on Tolerance of Violence, with alternative bandwidths



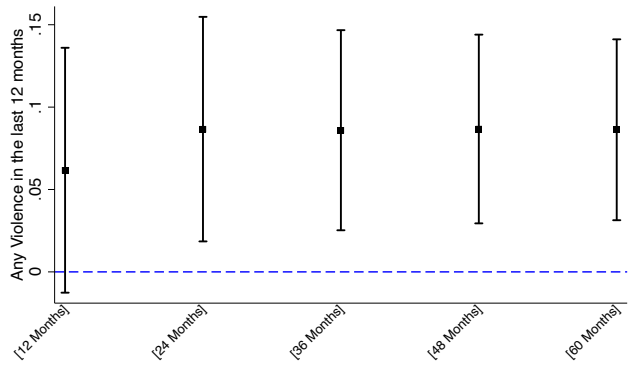
Note: Each point denotes the estimated β coefficient derived from a local nonparametric regression-discontinuity design. The x-axis bandwidth reflects the specification used. A triangular kernel with a linear polynomial of the score was utilized. The blue point estimate corresponds to the coefficient estimated using the optimal bandwidths as outlined by Calonico et al. (2014). The other coefficients were estimated by modifying these bandwidths: adding 10% (shifting towards the right of the graph) and subtracting 10% (shifting towards the left). Capped vertical bars indicate 95% confidence intervals. Robust standard errors clustered at the running variable level. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A15: Short Term Results: Bandwidth Sensitivity at 12-24-36-48-60 months

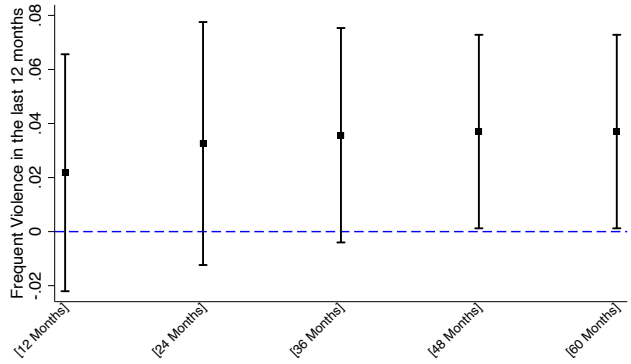
(a) Effect of MLDA on husband's alcohol consumption, with alternative bandwidths



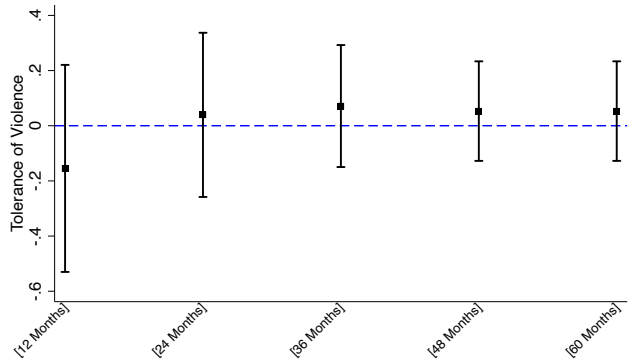
(b) Effect of MLDA on prevalence of violence in the last 12 months, with alternative bandwidths



(c) Effect of MLDA on **frequence** prevalence of IPV in the last 12 months, with alternative bandwidths

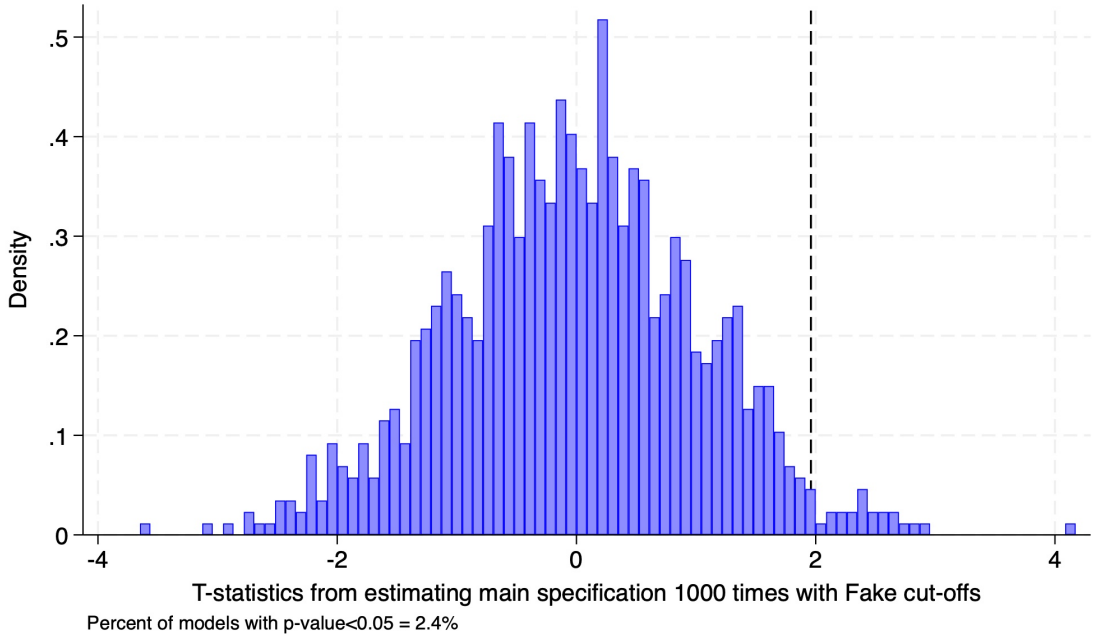


(d) Effect of MLDA on Tolerance of Violence, with alternative bandwidths



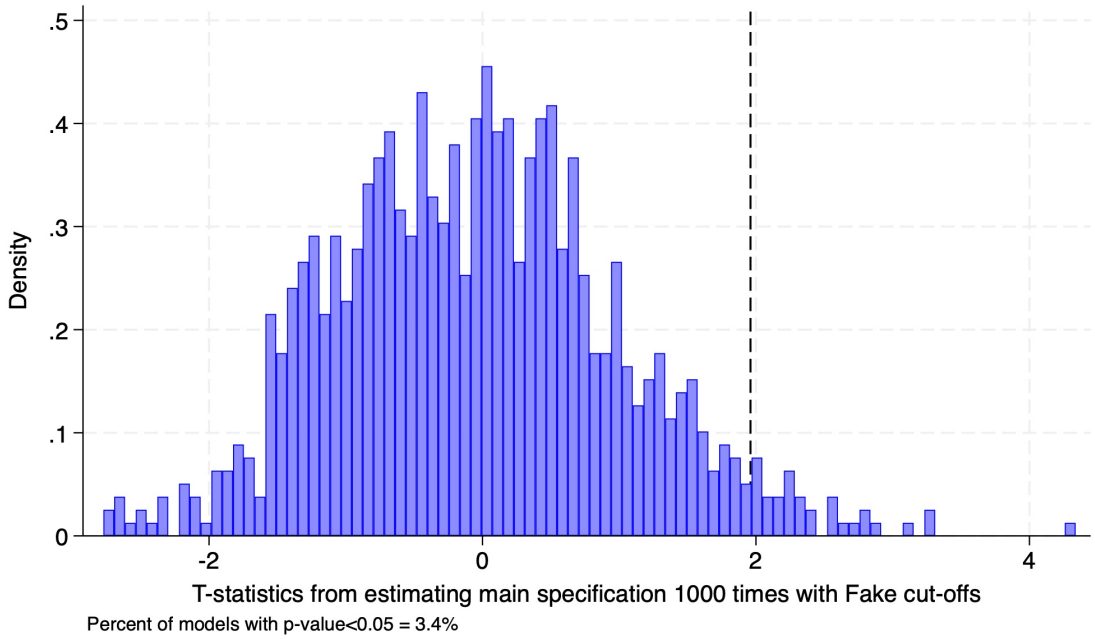
Note: Each point denotes the estimated β coefficient derived from a local nonparametric regression-discontinuity design. The x-axis bandwidth reflects the specification used. A triangular kernel with a linear polynomial of the score was utilised. The blue point estimate corresponds to the coefficient estimated using the optimal bandwidths as outlined by Calonico et al. (2014). The other coefficients were estimated on a 12-24-36-48-60 months. Capped vertical bars indicate 95% confidence intervals. Robust standard errors clustered at the running variable level. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A16: T-statistics distribution - Outcome: Husband's alcohol consumption



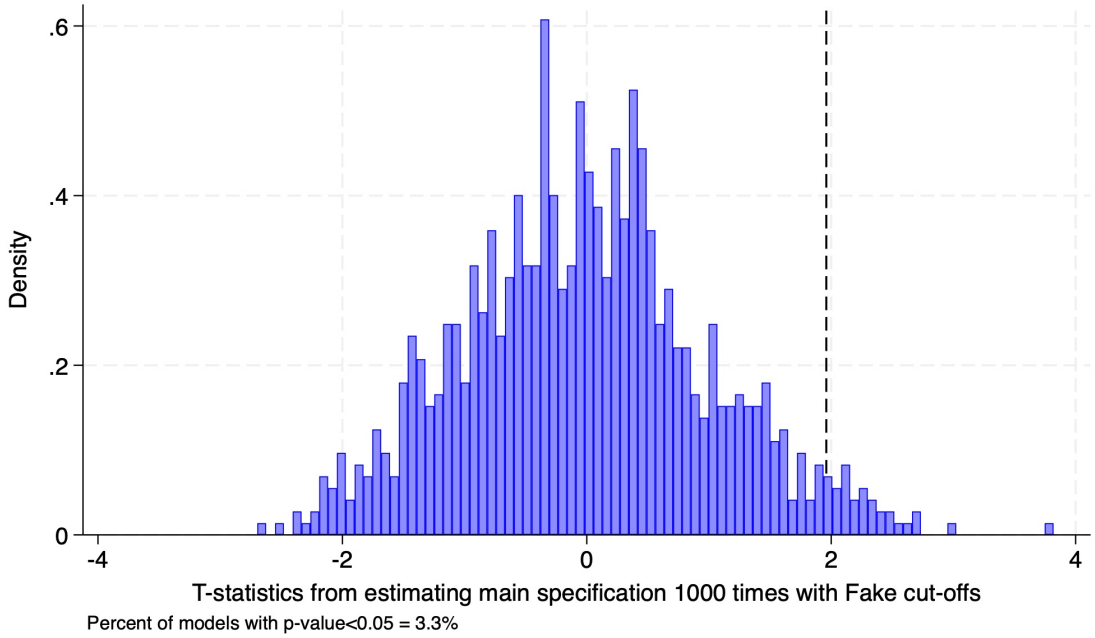
Note: The figure displays the t-statistics distribution from 1000 regressions of the specification 1, where I construct fake hypothetical cut-offs, obtained using a random number generator. This approach follows Young (2019). The outcome variable is husband's alcohol consumption. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A17: T-statistics distribution - Outcome: Occurrence of violence in the last 12 months



Note: The figure displays the t-statistics distribution from 1000 regressions of the specification 1, where I construct fake hypothetical cut-offs, obtained using a random number generator. This approach follows Young (2019). The outcome variable is the prevalence of violence in the past year. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Figure A18: T-statistics distribution - Outcome: Frequent Occurrence of violence in the last 12 months



Note: The figure displays the t-statistics distribution from 1000 regressions of the specification 1, where I construct fake hypothetical cut-offs, obtained using a random number generator. This approach follows Young (2019). The outcome variable is frequent prevalence of violence in the past year. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

B Tables

Table A10: Frandsen Test to test for no Manipulation of the running variable

Sample	Frandsen test	p-value
Full Sample	Fail to reject	0.644
LC Sample	Fail to reject	0.576
UC Sample	Fail to reject	0.929

Notes: Frandsen test for continuity of the running variable, with $k = 0$. The Null Hypothesis is that there is no manipulation at the cut-off. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Table A11: Assumption 2: Balance of the pre-determined covariates – Full Sample

	Above MLDA	Left Bandwidth	Right Bandwidth	N
Low Caste (W)	0.034	31	81	3,039
	(0.056)			
	[0.228]			
Low Caste (M)	-0.000	43	80	3,133
	(0.054)			
	[0.986]			
Urban (W)	0.062	33	125	4,802
	(0.062)			
	[0.206]			
Urban (M)	0.062	33	125	4,802
	(0.062)			
	[0.206]			
Hindu (W)	0.024	38	80	3,167
	(0.066)			
	[0.581]			
Hindu (M)	0.003	35	90	3,542
	(0.065)			
	[0.859]			
Muslim (W)	0.010	34	78	3,047
	(0.028)			
	[0.741]			
Muslim (M)	0.015	35	80	3,131
	(0.026)			
	[0.515]			
Age Marr. (W)	-0.592	28	63	2,338
	(0.418)			
	[0.229]			
Age Marr. (M)	-0.242	30	112	4,269
	(0.195)			
	[0.444]			
HH size	0.277	35	103	4,041
	(0.192)			
	[0.162]			
Number of Kids	0.170	37	49	2,043
	(0.119)			
	[0.357]			
Daughters at home	0.061	33	68	2,697
	(0.103)			
	[0.983]			
Gender 1st born	-0.008	35	112	3,899
	(0.061)			
	[0.908]			
Educ Gap	-0.068	33	98	3,831
	(0.381)			
	[0.862]			
Husband's unemployment	-0.014	35	123	4,730
	(0.026)			
	[0.607]			
Cash Earnings only	-0.012	36	103	3,584
	(0.020)			
	[0.434]			
Abusive Parents	0.028	36	66	2,415
	(0.049)			
	[0.495]			
Wave 1	-0.036	29	90	3,462
	(0.067)			
	[0.372]			
Wave2	0.016	29	112	4,239
	(0.058)			
	[0.471]			
Wave 3	0.008	37	77	3,035
	(0.053)			
	[0.826]			

Notes: Local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score. Robust corrected standard errors clustered at the running variable level in parentheses. State, year-wave, and time of the interview fixed effects included (survey-year FE not included when the outcome is the survey-year). * p $<$ 0.1; ** p $<$0.05; *** p $<$0.01. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Table A12: Assumption 2: Balance of the pre-determined covariates – LC Sample

	Above MLDA	Left Bandwidth	Right Bandwidth	N
Urban (W)	0.047	36	131	3,377
	(0.068)			
	[0.336]			
Urban (M)	0.047	36	131	3,377
	(0.068)			
	[0.336]			
Hindu (W)	0.034	37	85	2,174
	(0.049)			
	[0.324]			
Hindu (M)	0.008	34	90	2,324
	(0.050)			
	[0.997]			
Muslim (W)	-0.014	31	71	1,868
	(0.021)			
	[0.591]			
Muslim (M)	-0.012	31	73	1,898
	(0.021)			
	[0.629]			
Age Marr. (W)	-0.408	31	67	1,762
	(0.381)			
	[0.315]			
Age Marr. (M)	0.020	35	119	2,961
	(0.201)			
	[0.521]			
HH size	0.398	31	89	2,299
	(0.296)			
	[0.133]			
Number of Kids	0.188	38	64	1,677
	(0.132)			
	[0.352]			
Daughters at home	0.116	32	75	1,958
	(0.101)			
	[0.606]			
Gender 1st born	-0.044	33	117	2,663
	(0.065)			
	[0.691]			
Educ Gap	-0.492	35	136	3,477
	(0.455)			
	[0.343]			
Husband's unemployment	-0.007	35	117	2,924
	(0.033)			
	[0.940]			
Cash Earnings only	-0.017	25	106	2,388
	(0.021)			
	[0.734]			
Abusive Parents	0.038	39	67	1,621
	(0.057)			
	[0.494]			
Wave 1	-0.019	26	89	2,253
	(0.065)			
	[0.495]			
Wave2	0.024	25	108	2,674
	(0.067)			
	[0.434]			
Wave 3	-0.009	39	79	2,066
	(0.063)			
	[0.922]			

Notes: Local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score. Robust corrected standard errors clustered at the running variable level in parentheses. State, year-wave, and time of the interview fixed effects included (survey-year FE not included when the outcome is the survey-year). * p $<$ 0.1; ** p $<$0.05; *** p $<$0.01. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Table A13: Assumption 2: Balance of the pre-determined covariates – HC Sample

	Above MLDA	Left Bandwidth	Right Bandwidth	N
Urban (W)	0.045	36	126	1,627
	(0.088)			
	[0.525]			
Urban (M)	0.045	36	126	1,627
	(0.088)			
	[0.525]			
Hindu (W)	-0.010	34	100	1,255
	(0.150)			
	[0.911]			
Hindu (M)	-0.030	30	112	1,367
	(0.134)			
	[0.521]			
Muslim (W)	0.047	35	120	1,483
	(0.067)			
	[0.401]			
Muslim (M)	0.053	35	130	1,708
	(0.065)			
	[0.271]			
Age Marr. (W)	-0.640	29	104	1,257
	(0.700)			
	[0.623]			
Age Marr. (M)	-0.927**	28	98	1,200
	(0.343)			
	[0.018]			
HH size	-0.125	34	61	737
	(0.300)			
	[0.792]			
Number of Kids	0.142	32	45	575
	(0.146)			
	[0.687]			
Daughters at home	-0.045	29	73	905
	(0.128)			
	[0.324]			
Gender 1st born	0.078	34	101	1,132
	(0.129)			
	[0.457]			
Educ Gap	0.654	30	101	1,250
	(0.581)			
	[0.384]			
Husband's unemployment	-0.010	36	129	1,685
	(0.036)			
	[0.542]			
Cash Earnings only	0.004	34	89	965
	(0.036)			
	[0.908]			
Abusive Parents	-0.003	28	100	1,143
	(0.077)			
	[0.858]			
Wave 1	-0.066	32	109	1,357
	(0.109)			
	[0.406]			
Wave2	0.011	35	123	1,571
	(0.071)			
	[0.576]			
Wave 3	0.034	33	85	1,050
	(0.067)			
	[0.526]			

Notes: Local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score. Robust corrected standard errors clustered at the running variable level in parentheses. State, year-wave, and time of the interview fixed effects included (survey-year FE not included when the outcome is the survey-year).* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Table A14: Alternative definitions of alcohol consumption

Alcohol consumption [as reported by men]	Alcohol consumption [as reported by women]

Notes: Local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score. *Alcohol consumption as reported by the men* is a binary variable that takes value one when the male respondent is asked whether he consumes alcohol, *Alcohol consumption as reported by the women* is a binary variable that takes value one when the female respondent is asked whether her husband consumes alcohol. Robust corrected standard errors clustered at the running variable level in parentheses. All specifications include wave and state fixed effects. * p < 0.1; ** p <0.05; *** p <0.01. *Source:* Own estimations using the National Family Health Survey (NFHS 2005-2015-2020).

Table A15: Short-term effects – Excluding Men born in January

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.120*	0.075*	0.033	0.063***	0.042**	0.025	0.021	0.042
SE	0.067	0.038	0.039	0.022	0.020	0.018	0.014	0.160
P-Value	0.067	0.076	0.653	0.001	0.038	0.230	0.123	0.755
Left BW	34	37	34	33	35	33	36	36
Right BW	84	79	85	86	81	102	68	83
N	2,922	2,765	2,963	2,952	2,838	3,544	2,446	2,892
Mean of control	0.353	0.169	0.147	0.082	0.047	0.040	0.021	-0.042

Notes: Table A15 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1, excluding from the sample individuals who declared to be born in January. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01.
Source: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A16: Short-term effects – Quadratic

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.123*	0.078	0.033	0.060**	0.044**	0.025	0.014	0.018
SE	0.070	0.048	0.048	0.025	0.023	0.021	0.015	0.182
P-Value	0.096	0.161	0.719	0.019	0.036	0.230	0.542	0.721
Left BW	42	35	33	33	36	36	33	34
Right BW	146	87	83	144	107	106	99	112
N	5,770	3,403	3,169	5,611	4,138	4,106	3,874	4,283
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

Notes: Table A15 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a quadratic polynomial of the score.The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A17: Short-term effects – Including Covariates

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.122**	0.084	0.044	0.097***	0.043**	0.034*	0.036***	-0.063
SE	0.053	0.057	0.060	0.024	0.020	0.019	0.013	0.150
P-Value	0.015	0.114	0.605	0.000	0.025	0.085	0.002	0.496
Left BW	25	35	36	30	33	33	30	30
Right BW	70	106	118	107	131	119	68	58
N	2,097	3,370	3,693	3,338	4,254	3,702	2,045	1,677
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

Notes: Table A15 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a quadratic polynomial of the score.The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Covariates included: State FE, year-wave FE, Hindu (Man), Hindu (Woman), Age Gap, HH size, Caste, Year of Birth (Man), Year of Birth (Woman), Gender of the First born, Past Familial abuse, Urban, Woman's Education, Man's Education, and the survey timing. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A18: Short-term effects – Uniform Distribution

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.125**	0.072*	0.068	0.055***	0.045**	0.030	0.021	0.119
SE	0.050	0.041	0.041	0.024	0.022	0.019	0.015	0.150
P-Value	0.011	0.083	0.157	0.006	0.044	0.164	0.119	0.337
Left BW	30	22	28	22	23	24	27	24
Right BW	69	91	88	75	77	87	66	92
N	2,675	3,429	3,310	2,818	2,887	3,271	2,517	3,481
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

Notes: Table A15 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a quadratic polynomial of the score.The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A19: Short-term effects – Epanechnikov Distribution

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.141**	0.076**	0.045	0.063***	0.039**	0.025	0.018	0.077
SE	0.059	0.038	0.038	0.023	0.020	0.017	0.014	0.139
P-Value	0.014	0.048	0.395	0.001	0.029	0.163	0.122	0.483
Left BW	29	35	31	27	31	30	31	32
Right BW	78	101	104	84	70	97	63	94
N	2,993	3,961	3,986	3,164	2,730	3,737	2,382	3,669
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

Notes: Table A15 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a quadratic polynomial of the score.The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A20: Short-term effects – Excluding Delhi

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.167***	0.114***	0.087*	0.076***	0.050**	0.037*	0.027***	0.071
SE	0.062	0.046	0.044	0.021	0.024	0.021	0.013	0.135
P-Value	0.003	0.007	0.056	0.000	0.013	0.069	0.007	0.472
Left BW	29	37	38	30	34	35	32	35
Right BW	83	62	59	72	68	91	63	95
N	2,890	2,260	2,135	2,606	2,507	3,302	2,257	3,407
Mean of control	0.351	0.175	0.148	0.084	0.048	0.038	0.021	-0.026

Notes: Table A20 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1, excluding from the sample individuals residing in Delhi. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01.
Source: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A21: Short-term effects – Excluding couples with past familial abuse

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.152***	0.106***	0.073***	0.077***	0.035**	0.033**	0.012*	0.116
SE	0.065	0.024	0.027	0.016	0.013	0.013	0.007	0.120
P-Value	0.006	0.000	0.008	0.000	0.010	0.018	0.053	0.254
Left BW	30	32	31	30	31	30	32	31
Right BW	112	93	96	139	119	105	106	90
N	3,004	2,549	2,634	3,773	3,158	2,847	2,879	2,419
Mean of control	0.334	0.122	0.103	0.054	0.033	0.023	0.014	-0.105

Notes: Table A21 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1, excluding from the sample excluding couples with past familial abuse. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01.
Source: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A22: Short-term effects – Robust Standard Errors following Kolesár and Rothe (2018)

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.125**	0.078*	0.045	0.061**	0.037*	0.026	0.017	0.067
SE	0.054	0.045	0.046	0.029	0.023	0.021	0.017	0.080
P-Value	0.019	0.083	0.452	0.018	0.072	0.253	0.266	0.319
Left BW	35	37	34	33	35	39	36	35
Right BW	89	98	96	88	70	99	70	106
N	3,450	3,850	3,737	3,375	2,831	3,895	2,831	4,096
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

Notes: Table A22 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

Table A23: Short-term effects – Robust Standard Errors Clustered at District Level

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.157**	0.103***	0.069**	0.020	0.046***	0.040***	0.010	-0.006
SE	0.063	0.032	0.029	0.027	0.017	0.014	0.016	0.124
P-Value	0.011	0.001	0.015	0.707	0.009	0.008	0.656	0.917
Left BW	33	33	36	33	30	29	35	32
Right BW	84	114	103	119	80	83	84	84
N	2,219	3,076	2,825	3,148	2,141	2,168	2,274	2,253
Mean of control	0.357	0.174	0.147	0.084	0.050	0.039	0.023	-0.041

Notes: Table A23 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above the minimum age at drinking. The sample consists of couples residing in states where the MLDA is 25. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Robust bias corrected standard errors clustered at the district level. * p < 0.1; ** p <0.05; *** p <0.01. The information on the district is available only in the last two waves of the NFHS. *Source*: Own estimations based on National Family Health Survey (NFHS 2015-2020).

Table A24: Short-term effects: Placebo, States with Ban on Alcohol

	Husband Drinks	IPV in the past year			Frequent IPV in the past year			Tolerance index
		Any	Phys. & Sex.	Emotional	Any	Phys. & Sex.	Emotional	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above MLDA	0.005	0.016	0.012	0.015	0.006	0.009	-0.005	0.055
SE	0.059	0.046	0.053	0.029	0.023	0.025	0.013	0.069
P-Value	0.673	0.515	0.616	0.371	0.674	0.627	0.930	0.312
Left BW	29	38	37	28	40	34	34	32
Right BW	127	110	125	86	115	119	146	79
N	5,788	4,911	5,728	3,588	5,165	5,232	7,009	3,390
Mean of control	0.345	0.245	0.202	0.109	0.033	0.021	0.017	0.032

Notes: Table 3 reports the estimated coefficients based estimating a local non-parametric regression-discontinuity design specification in the Calonico et al. (2014) optimal bandwidth, with a triangular kernel and a linear polynomial of the score, as presented in equation 1. The regression-discontinuity design exploits the within states variation generated by the MLDA, comparing couples whose husband's age is just below and above 25 years old. All specifications include wave and state fixed effects. The dependent variable of column (1) is measured as a binary variable coded as one if either the wife reports that the husband is drinking and/or if the husband self-report that he drinks alcohol. The dependent variables of columns (2), (3), and (4) are measured as a binary variable coded as one if the reported experiencing any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variables of columns (5), (6), and (7) are measured as a binary variable coded as one if the reported experiencing frequently any form of IPV, any physical or sexual violence, and any emotional violence in the last 12 months. The dependent variable of column (8) is a variance weighted index following Anderson (2008a) that combines women's justifiability of wife-beating in 7 scenarios: (i) if she goes out without permission; (ii) if she neglects the children; (iii) if the argues with the husband; (iv) if she burns food; (v) if she refuses sex; (vi) if she is unfaithful; (vii) if she disrespects the in-laws. Sample restricted to couples living in States with a ban on alcohol (i.e., Bihar (after 2016), Gujarat, Kerala (partial ban 2010-2017), Lakshadweep, Manipur (partial ban), Mizoram, Nagaland). Robust bias corrected standard errors clustered at the running variable level in parentheses. * p < 0.1; ** p <0.05; *** p <0.01. *Source*: Own estimations based on National Family Health Survey (NFHS 2005-2015-2020).

C Theoretical Appendix

This section shows the iterative method to derive the posterior probability under standard Bayesian updating, as discussed in Section 2.

Let's assume that a woman at time $t = 0$ holds a certain prior about her husband being a violent-type P_0.

- At time $t = 1$, the woman receives a violent signal θ. Thus her posterior at time $t = 1$ will take the following form:

$$P_1(\theta) = \frac{P_0 P_\theta}{P_0 P_\theta + (1-P_0)(1-P_\theta)}$$

That can be rewritten as:

$$P_1(\theta) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{1-P_\theta}{P_\theta})}$$

- At time $t = 2$, the woman receives a second violent signal θ. Thus her posterior at time $t = 2$ will take the following form:

$$P_2(\theta^2) = \frac{P_1(\theta) P_\theta}{P_1(\theta) P_\theta + (1-P_1(\theta))(1-P_\theta)}$$

That can be rewritten as:

$$P_2(\theta^2) = \frac{1}{1+(\frac{1-P_1(\theta)}{P_1(\theta)})(\frac{1-P_\theta}{P_\theta})}$$

Knowing from the equations above that $\frac{1-P_1(\theta)}{P_1(\theta)} = (\frac{1-P_0}{P_0})(\frac{1-P_\theta}{P_\theta})$, $P_2(\theta^2)$ can be rewritten as follow:

$$P_2(\theta^2) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{1-P_\theta}{P_\theta})^2}$$

- At time $t = 3$, the woman receives a non-violent signal $n\theta$. In the three periods from $t = 1$ to $t = 3$, she has therefore received two violent signals (θ) and one non-violent signal (nθ). Thus her posterior at time $t = 3$ will take the following form:

$$P_3(\theta^2, n\theta) = \frac{P_2(\theta^2)(1-P_\theta)}{P_2(\theta^2)(1-P_\theta)(1-P_2(\theta^2)P_\theta}$$

That can be rewritten as:

$$P_3(\theta^2, n\theta) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{1-P_\theta}{P_\theta})^2}$$

Knowing from the equations above that $\frac{1-P_2(\theta)}{P_2(\theta)} = (\frac{1-P_0}{P_0})(\frac{1-P_\theta}{P_\theta})^2$, $P_3(\theta^2, n\theta)$ can be rewritten as follows:

$$P_3(\theta^2, n\theta) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{1-P_\theta}{P_\theta})^2(\frac{P_\theta}{1-P_\theta})}$$

That is:

$$P_3(\theta^2, n\theta) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{P_\theta}{1-P_\theta})^{-}1}$$

- At time $t = T$, after having received k violent signals and $T - k$ non-violent signals, woman's posterior will be:

$$P_T(\theta^k, n\theta^{T-k}) = \frac{1}{1+(\frac{1-P_0}{P_0})(\frac{P_\theta}{1-P_\theta})^{(T-2k)}}$$