The Effect of Decriminalization of Light Intimate Partner Violence on Married Women's Welfare: Evidence from Russia's Criminal Law Reform

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Abstract

The decision to arrest men who abuse their partner is often at the police officers' discretion, especially when the abuse is not serious. However, such light abuse may accumulate and deteriorate women's welfare. This paper uses Russia's criminal law reform that decriminalized light domestic and non-domestic violence as a natural experiment to study the effect of decriminalization of light intimate partner violence on married women's welfare. Using difference-in-differences and flexibly controlling for macroeconomic shocks with unmarried women as a control group, I find that the reform decreased married women's life satisfaction and increased depression. The effect size is similar for college-educated women and women in high-qualified occupations who may be more sensitive to general violence norms. The likely mechanism is that the reform muted married women because the law no longer protected them from their partners' light abuses: while unmarried women began to express less tolerance toward intimate partner violence, married women did not. Also, married or unmarried men did not change their tolerance significantly, suggesting that the effect is women-specific. These findings suggest that decriminalizing intimate partner violence decreases married women's welfare, even if it is a light one, and highlights the importance of legal institutions in harnessing intimate partner violence.

JEL codes: J12, I31, K36, P37
Keywords: Intimate partner violence, women, law, welfare, Russia

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1 Introduction

Intimate partner violence against women is quite prevalent across the world, both in developing and OECD countries (Devries et al. 2013; Garcia-Moreno et al. 2006). This is a serious issue that leaves a long-lasting negative impact on women's (Delara 2016) and their children's lives (Aizer 2011; Doyle and Aizer 2018; Monnat and Chandler 2015). However, even if women report such violence to the police, it is often up to the police officers' discretion whether to arrest the abusers (Amaral, Bandyophdyay, and Blanes-i-Vidal 2021; Amaral, Bhalotra, and Prakash 2021; American Bar Association 2014). This is especially likely when it is not serious, but such a light abuse may accumulate and negatively affect women's welfare.

This paper studies the effect of the decriminalization of light intimate violence on married women's welfare using Russia's criminal law reform that decriminalized light domestic and non-domestic violence. The reform, especially the decriminalization of light domestic violence introduced to the national congress in 2016, drew international (Human Rights Watch 2018; The Economist 2017; The Moscow Times 2019) and national attentions (Human Rights Watch 2017; Regnum 2019; Roache 2021), and offers a natural experiment to study my research question. Using difference-in-differences and flexibly controlling for macroeconomic shocks with unmarried women as a control group, I find that the reform decreased married women's life satisfaction and increased their depression. Married women's alcohol consumption also increased slightly, but the increase is statistically insignificant. The effect size is similar for college educated women and women in a high-qualified occupation who may be more sensitive to general violence norms. To investigate the underlying mechanism, I turn to the change in women's attitude toward intimate partner violence and find that while unmarried women started to express less tolerance toward intimate partner violence, married women did not, which could be due to that married women were muted because the law no longer protected them from their partners' abuse. Corroborating this, men did not change their attitude significantly regardless of their marital status, suggesting that the effect is specific to women. Taken together, these findings suggest that decriminalizing intimate partner violence decreases married women's welfare, even if it is a light abuse, and highlight the importance of legal institutions in harnessing intimate partner violence.

This paper's contribution is twofold. First, it contributes to the literature on the consequences of intimate partner violence by showing how decriminalization of light abuses by partners affect women's welfare. Several studies examine the consequences of intimate partner violence on women's mental health (Delara 2016) and their children's immediate (Aizer 2011) as well as later-life physical health (Monnat and Chandler 2015), and labor market outcomes (Doyle and Aizer 2018). There is also evidence that those children reduce their peers' academic outcomes through disruptive behaviors in the class (Carrell and Hoekstra 2010). While these studies examine the consequences of serious intimate partner violence, studies that examine the consequences of light abuse is scarce, which this paper provides as reduced form evidence.

Second, this paper contributes to the literature on the role of legal institutions in preventing intimate partner violence by showing that the decriminalization of even light partner abuses can

decrease women's welfare. The closest paper to mine is Sanin (2021a) who uses criminalization of gender-based violence in Rwanda and exploiting the geographical variation of male scarcity due to Rwandan Genocide, and finds that the criminalization increased divorce of violent marriages and decreased the rising trend of serious intimate partner violence. My paper instead shows that the decriminalization of light intimate partner violence and in a country like Russia where women are highly educated and actively participate in labor market (see Figures 1 and 2 in section 2). Aside from (de)criminalization of intimate partner violence, the literature finds that unilateral divorce law (Stevenson and Wolfers 2006), women's improved property rights, (Amaral 2017), and prohibition of withdrawing charges against intimate partner violence abusers (Aizer and Dal Bó 2009) reduce intimate partner violence. On the other hand, limiting access to abortion increases intimate partner violence (Muratori 2021). However, simply tightening the legal stance against abusers may not solve the problem: Iyengar (2009) shows that a mandatory intimate partner violence abuser arrest law reduces the probability that a woman reports abuses by their partners and increases the probability that the abusers kill women.

In general, there seems to be an interplay between household bargaining power and men's backlash in preventing intimate partner violence. For example, some studies find that women's increased economic power has deterrence effect (Aizer 2010; Anderberg et al. 2016; Bhalotra et al. 2021b; Heath, Hidrobo, and Roy 2020; Hidrobo, Peterman, and Heise 2016; Kotsadam and Villanger 2022; Molina and Tanaka 2021; Sanin 2021b) while other studies find acceleration effect (Ericsson 2020; Erten and Keskin 2021; Tur-Prats 2019) especially when women are more educated than men (Hidrobo and Fernald 2013). In particular, men's job loss seems to increase intimate partner violence (Bhalotra et al. 2021c) as we witnessed the sharp spike in the cases during the COVID-19 lockdown (Bhalotra et al. 2021a; Clerici and Tripodi 2021). The decriminalization of light intimate partner violence can be considered as reducing men's cost of abusing their partner, changing the household bargaining power between women and men.

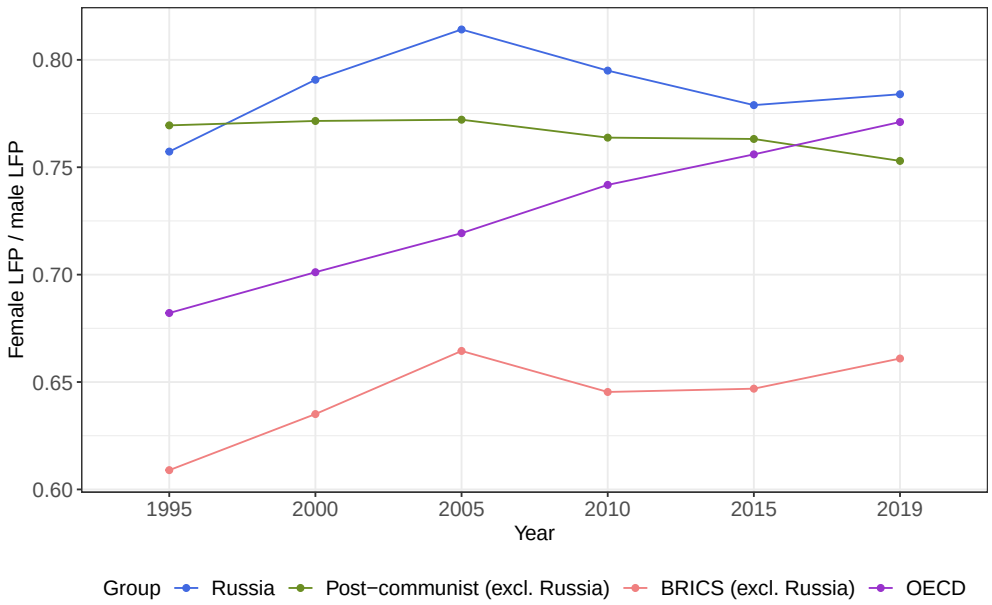
The remainder of the paper proceeds as follows. Section 2 provides details of Russia's situation and its criminal law reform. Section 3 describes the data. Section 4 presents the empirical strategy. Section 5 presents the results. Section 6 concludes.

2 Institutional context

2.1 Women's labor force participation and education in Russia

Women in Russia had been running far ahead of women in OECD countries for their labor market participation, education attainment, and earnings relative to men. Although OECD countries have been catching up Russia, Russian women's relative labor market and educational outcomes are still slightly better than women in OECD countries. Figure 1 plots the ratio of female to male labor force participation rate for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019. The figure shows that Russia (and other post-communist countries) had higher female labor force participation

Figure 1: Ratio of female to male labor force participation rate of Russia and groups of countries



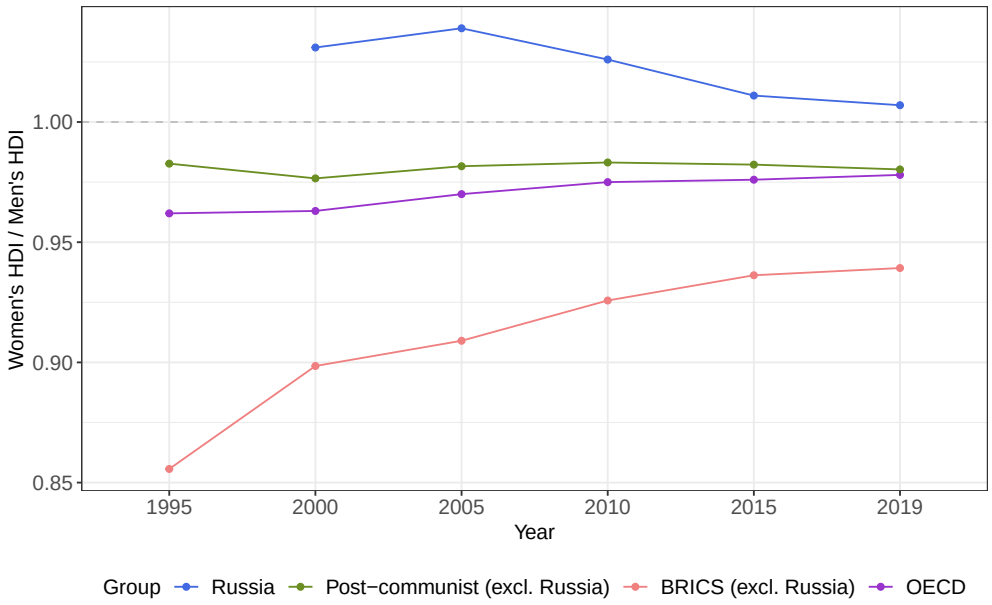
Notes: This figure plots the ratio of female to male labor force participation rate for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019. Other BRICS are Brazil, India, China, and South Africa. Post-communist countries are initial Comecon members as defined in Britannica (*Comecon* 2019): former Soviet Union (Russia, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan), Bulgaria, former Czechoslovakia (Czechia and Slovakia), Hungary, Poland, and Romania.
Source: The World Bank (https://data.worldbank.org/indicator/SL.TLF.CACT.FM.ZS). Retrieved on September 6, 2022.

relative to men than OCED countries did; while OECD countries have been catching up, Russia still has higher female relative labor force participation rate than OCED countries. These are stark contrasts to the situation in other BRICS – a group of countries with a similar level of economic development as Russia, namely, Brazil, India, China, and South Africa – whose female relative labor force participation rate have been very low.

Corroborating Figure 1, Figure 2 plots the gender development index – an index that consists of schooling, earnings, and life expectancy – again for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019.[1] The figure shows that women in Russia have been more educated and earned more than men since 2000, above gender parity and above OECD countries. Although their index has been deteriorating since 2005, it is still higher than that of OECD and slightly above gender parity. Other post-communist countries also had a gender development index higher than OCED countries. Again, these are stark contrasts to the situation in other BRICS whose gender development indexes

1. Gender development index is a ratio of women's and men's human development index, which is calculated from (i) mean and expected years of schooling, (ii) gross national income (GNI) per capita, and (iii) life expectancy at birth. Thus, the higher the index, the more women are educated, the more women earn, and the longer women live relative to men, with 1 being gender parity.

Figure 2: Gender Development Index of Russia and groups of countries



Notes: This figure plots the gender development index for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) from 1995 to 2019. Gender development index is a ratio of women's and men's human development index, calculated from mean and expected years of schooling, gross national income (GNI) per capita, and life expectancy at birth. Thus, the higher the index, the more women are educated, the more women earn, and the longer women live relative to men, with 1 being gender parity. For the exact calculation of the index, see the technical notes of the United Nations Development Programme (2020). Other BRICS and post-communist countries are defined in Figure 1.
Source: UNDP Human Development Reports, The gender Development Index (http://hdr.undp.org/en/indicators/137906). Retrieved on December 26, 2021.

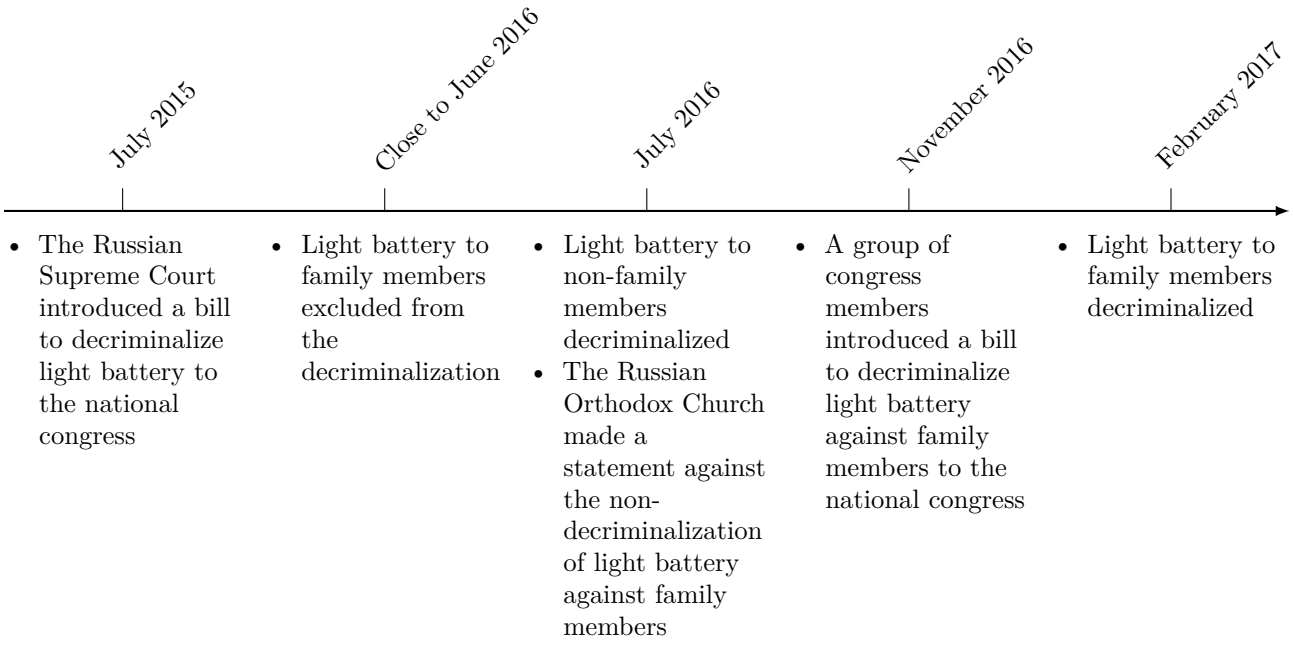
have been low.[2]

In summary, Russia's gender equality has been very high with respect to labor force participation, education, and earnings, despite the low GDP and despite having a very different political regime than OECD countries. Of course, gender equality has many dimensions and labor market and education outcomes are only parts of it. Still, at least, it is not a country where women have constantly been discriminated. Hence, some Russian people take intimate partner violence against women very seriously as discussed in the introduction. There are more rigorous analysis on this point for socialist regime in general: several studies that examine East and West Germany reunification find East Germans had more gender egalitarian views (Bauernschuster and Rainer 2012; Boelmann, Raute, and Schönberg 2021) and had less traditional gender role attitude (Campa and Serafinelli 2018).

2. Appendix Figure A1 presents women's (Panel A) and men's (Panel B) human development index for groups of countries included in Figure 2. The figure shows that women's human development index in Russia and other post-communist countries lags behind the OCED countries, likely because of the difference in the degree of economic development. However, compared to countries with a similar degree of economic development – other BRICS – women's human development in Russia and other post-communist countries is much higher.

2.2 The criminal law reform in 2015-2017

Figure 3: Timeline of changes in light battery penalties in Russia



Notes: This figure shows the timeline of the changes in light battery penalties.
Sources: Isajanyan (2017), Human Rights Watch (2018), Russian Orthodox Church (2016), The Russian Federation (2016, 2017), and (Kholmogorova and Alekhina 2017).

Table 1: Changes in penalties for various batteries

	- July 2016	July 2016 - February 2017	February 2017 -
Battery to a family member 1st time in a given year	Criminal offense	Criminal offense (modified)	Administrative offense
Battery to a non-family member 1st time in a given year	Criminal offense	Administrative offense	
Battery to anyone 2nd time or more in a given year	Criminal offense	Criminal offense (modified)	
Battery to anyone that results in injury	Serious criminal offense		

Notes: This table shows changes in penalties for various batteries. The battery is "Beatings or other violent actions that caused physical pain" (The Russian Federation 1996). The family member is defined as "close relatives (husband, wife, parents, children, adoptive parents, adopted children, siblings, grandfathers, grandmothers, grandchildren), guardians, trustees, as well as persons who are in property with the person who committed the act provided for in this article, or persons who maintain a common household with him" (The Russian Federation 2016).
Sources: Isajanyan (2017), Human Rights Watch (2018), and The Russian Federation (2016, 2017).

In July 2015, the Russian Supreme Court introduced a bill to decriminalize a light battery[3] –

3. Battery is defined as "Beatings or other violent actions that caused physical pain" (The Russian Federation 1996)

Table 2: Details of the penalties for various batteries (one of the following applies)

	Administrative offense	Criminal offense	Criminal offense (modified)	Serious criminal offense
Fine (max.)	30000 rubles (≈450 USD)	40000 rubles (≈600 USD)		NA
Imprisonment (max.)	15 days	3 months		2 years
Labor (max.)	NA	6 months		2 years
Community service (max.)	120 hours	360 hours	240 hours	360 hours

Notes: This table presents the details of the penalties for various batteries shown in Table 1.
Sources: Isajanyan (2017), Human Rights Watch (2018), and The Russian Federation (2016, 2017). The equivalent USD values for fines are calculated using the World Bank's 2017 average USD/ruble exchange rate (https://data.worldbank.org/indicator/PA.NUS.FCRF), retrieved on August 30, 2022.

changing it from a criminal offense to an administrative offense – to the Russian national congress as a part of broader criminal law reform (Isajanyan 2017). The bill initially did not distinguish between battery against family and non-family members as the then-existing law did,[4] but before its implementation, the congress kept light battery against family members as a criminal offense.

However, the Russian Orthodox Church immediately criticized the exclusion of light batteries against family members from the decriminalization, saying it had "no moral justification and legal grounds" (Russian Orthodox Church 2016). Then a group of Russian national congress members introduced a bill to decriminalize a light battery against family members to the national congress in November 2016 (Layva 2016), which was eventually enacted in February 2017. Figure 3 presents the timeline of the changes in light battery penalties, and Table 1 presents changes in the penalties for various batteries. Table 2 presents the details of the penalties for various batteries shown in Table 1.

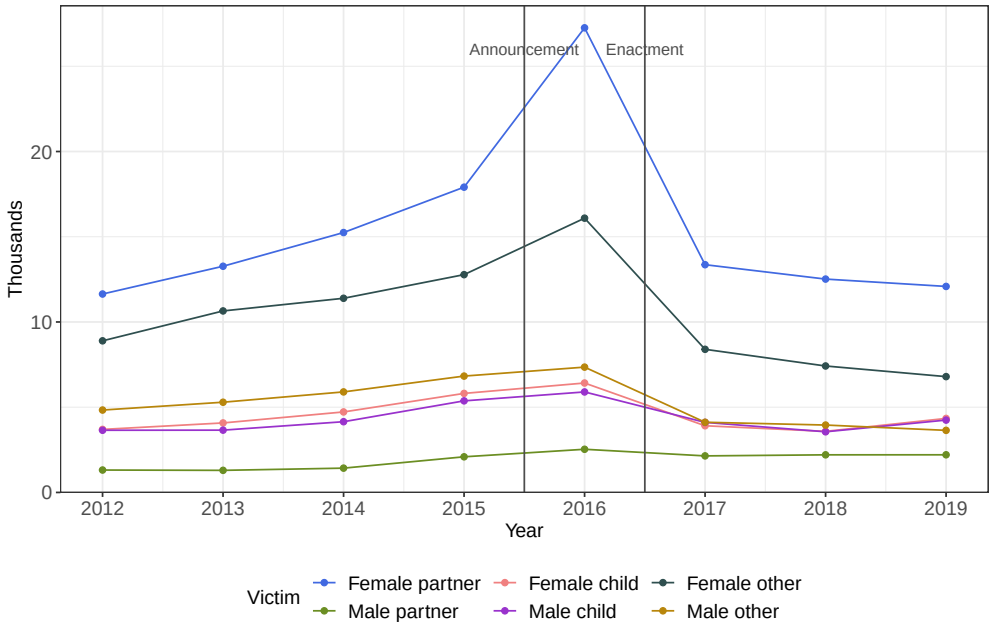
After the enactment of the domestic violence decriminalization, the number of registered domestic violence dropped sharply especially against female partner as shown in Figure 4 because non-serious abuses against family members no longer appeared as registered violence. Also, the number of marriages seems to have dropped already in the announcement year, while the number of divorces seems to have already been in a declining trend even before the criminal law reform, as shown in Figure 5. On the other hand, the registered general, serious, non-serious, and gender-based violence that were still subject to criminal law kept dropping and there is no apparent shift in 2016, as shown in Figure 6, suggesting that the criminal law reform only affected light battery.[5,6]

4. Family members are defined as "close relatives (husband, wife, parents, children, adoptive parents, adopted children, siblings, grandfathers, grandmothers, grandchildren), guardians, trustees, as well as persons who are in property with the person who committed the act provided for in this article, or persons who maintain a common household with him" (The Russian Federation 2016).

5. While there was a jump in total crime in 2015, it was mainly driven by an increase in thefts, which likely reflected a drop in the GDP growth in 2015; see: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=RU

6. Although The Federal State Statistics Service (2017) does not provide full breakdown of all crimes, the increase in all crimes from 2014 to 2015 was 197.9 thousands and the increase in theft was 109.6 thousands. Fraud is also responsible for the overall increase, which increased by 40.4 thousands from 2014 to 2015 (The Federal State Statistics

Figure 4: Number of registered domestic violence in Russia by victim type (thousands)



Notes: This figure plots the number of reported violent crimes committed by men against their female partner (domestic violence) in Russia from 2012 to 2019, normalized by its 2012 value. The value in 2012 was 11.5 thousands. The vertical lines indicate the announcement (2016) and the enactment years (2017) of the bill. The hike in 2016 seems to come from that "until July 2016, the norms of the Criminal Code, under which most cases of domestic violence were initiated, belonged to the category of private prosecution" and the police did not investigate the cases (Kholmogorova and Alekhina 2017), which has changed in July 2016 by explicitly stating that the domestic violence was subject to the Criminal Code.
Source: The Federal State Statistics Service: Family, motherhood and childhood (https://rosstat.gov.ru/folder/13807). Retrieved on August 12, 2022.

3 Data

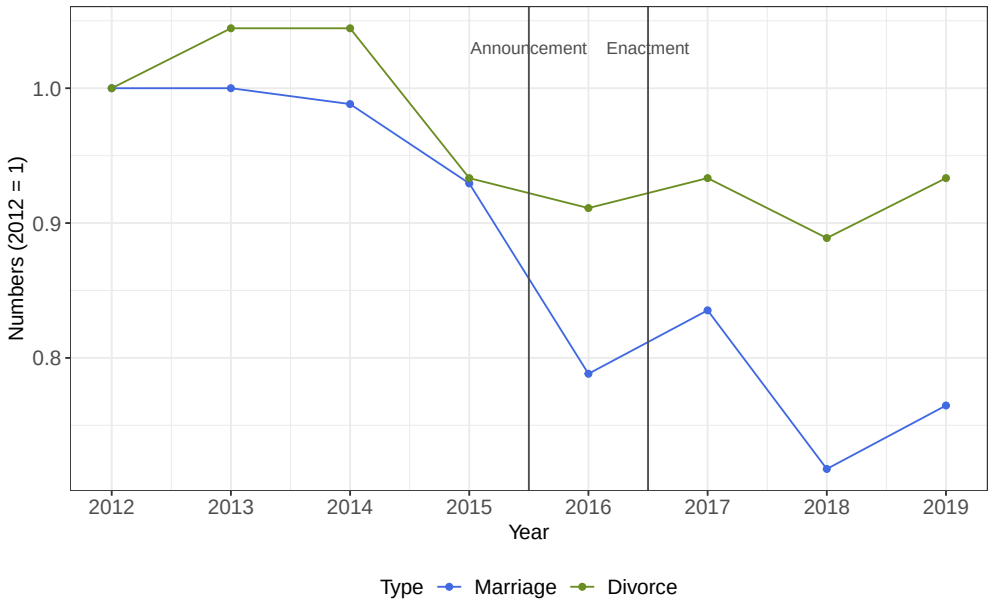
3.1 Russian Longitudinal Monitoring Survey

To examine the effect of the decriminalization of light intimate partner violence on married women's welfare, I use the Russia Longitudinal Monitoring Survey (RLMS), a panel survey data conducted every year by researchers at the Higher School of Economics of Moscow and the University of North Carolina at Chapel Hill (Kozyreva, Kosolapov, and Popkin 2016). The RLMS is a household-level nationally-representative annual survey where interviewers visit selected households and interview as many household members as possible. For household members of 13 years old or younger, the interviewers instead ask questions to the adult in the same household. From 2010 to 2013, above 6000 households and 16000 individuals were interviewed every year. The RLMS adds additional households each year to keep the number of households balanced.

The data contains information on individuals' health and welfare as well as demographics; I use women's individual data for the analysis from 2011-2019 but exclude those who were added after

Service 2017).

Figure 5: Number of marriages and divorces in Russia (2012=1)



Notes: This figure plots the number of marriages (blue) and divorces (green) per 1000 inhabitants in Russia from 2012 to 2019, normalized by its 2012 value. The value in 2012 is 9.2 for marriage and 4.7 for divorce per 1000 inhabitants. The vertical line indicates the announcement year of the bill (2016).
Source: The Federal State Statistics Service: Demography (https://rosstat.gov.ru/folder/12781). Retrieved on August 15, 2022.

2015 because I could not define their marital status before the criminal law reform. I also restrict the sample to 18 and 74 years old women and women not in a co-habitation relationship; see section 4.1 for the justification of these sample restrictions.

Table 3 describes the welfare measures I use as the dependent variables (Panel A), demographic characteristics (Panel B), education level (Panel C), and occupation category (Panel D) for married (Treated) and unmarried women (Control) and their differences before the criminal law reform (2011-2015). Marital status is defined as of 2015. Panel A shows that average treated women have higher welfare than control women: they are more satisfied with their life and experience less depression. However, they drink two more grams of alcohol per day on average.[7,8,9]

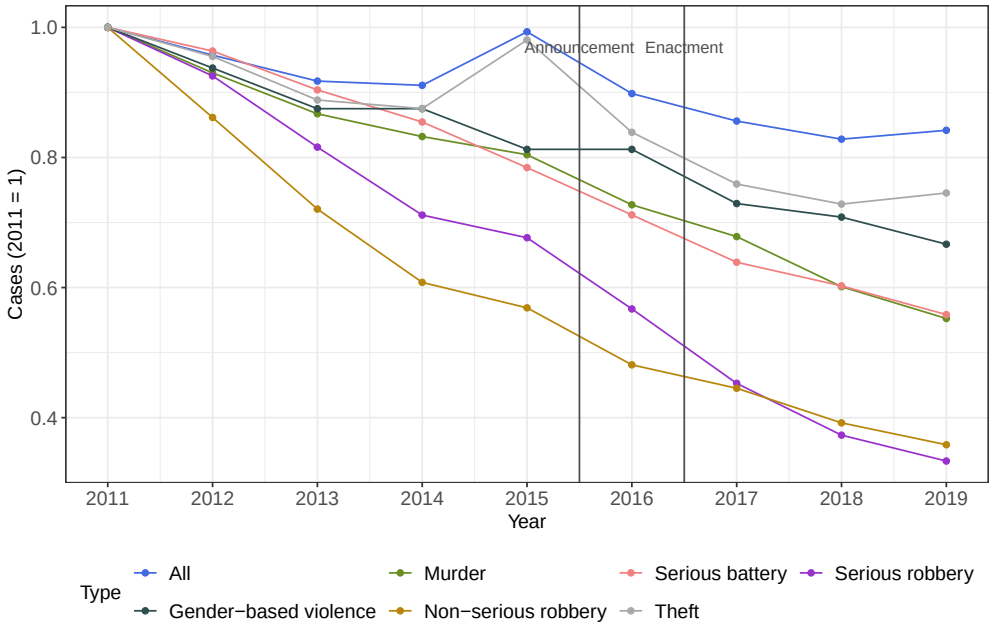
Panel B shows that treated women are younger and more likely to be employed than control women. Treated women are also slightly more likely to be Russian Orthodox, although the difference is quantitatively small (3 percentage points). Also, Panel C shows that treated women are more educated than control women. Further, Panel D shows that treated women are more likely to be in a higher-paid occupation category. Note that the occupation category is defined regardless of one's

7. English translation for the life satisfaction question is "satisfaction with life at present." The answer choices are "fully satisfied" being 1, "rather satisfied" being 2, "both yes and no" being 3, "less than satisfied" being 4, and "not at all satisfied" being 5. For ease of interpretation, I rescaled the answers into [0,1] interval and recoded it so that the higher the value, the more satisfied with the life.

8. English translation for the depression question is "had depression in last 12M?" and the answer choices are 1 being yes and 2 being no. I recoded this variable for ease of interpretation so that 0 being no and 1 being yes.

9. I calculate alcohol intake per day following Yakovlev (2018).

Figure 6: Number of registered crimes in Russia by type (2011=1)



Notes: This figure plots the number of registered crimes by type in Russia from 2011 to 2019, normalized by their respective value in 2011. All (blue) includes all types of crimes, Murder (green) includes murders including attempts, Serious battery (red) includes batteries that result in serious injury, Serious robbery (purple) includes stealing from someone with life-threatening means of violence, Gender-based violence (dark green) includes gender-based violence, Non-serious robbery (yellow) includes stealing from someone with light violence, and Theft (gray) includes stealing from someone without any violence. Values in 2011 (in thousands): 2404.8 for All, 14.3 for Murder, 38.5 for Serious battery, 20.1 for Serious robbery, 4.8 for Gender-based violence, 127.8 for Non-serious robbery, and 1038.6 for Theft. The vertical line indicates the announcement year of the bill (2016).
Sources: The Federal State Statistics Service (2017, 2021).

employment status as it is the sector they belong to.

Thus, Panel A suggests that a simple comparison between treated and control women would not yield a causal effect of the bill, which motivates me to use difference-in-differences. However, Panels B-D suggests that macroeconomic shocks would likely have affected treated and control women differently, and thus, they are likely on a different time trend, invalidating standard difference-in-differences. I deal with this possible differential time trend by flexibly controlling for macroeconomic shocks at the region-education-occupation cell level.

3.2 World Values Survey

To supplement the analysis of married women's welfare, I use the World Values Survey (WVS, Inglehart et al. 2020) – a repeated cross-sectional nationally-representative survey conducted since 1981 in more than 120 countries – to examine changes in people's attitude toward intimate partner violence. The survey collects information on people's values in several dimensions, such as "social, political, economic, religious and cultural values." The survey is conducted face-to-face,

Table 3: Summary statistics for RLMS data: Treated vs. control women, 2011-2015

	Treated		Control		Difference (Treated – Control)		
	Mean	SD	Mean	SD	Mean	SE	P-value
Panel A: Welfare measures							
Life satisfaction (0-1)	0.60	0.25	0.51	0.28	0.09	0.01	0.00
Depression in the past 12 months (1/0)	0.11	0.31	0.15	0.35	−0.04	0.01	0.00
Alcohol intake per day (gram)	25.48	45.59	23.47	45.93	2.01	0.90	0.03
Panel B: Demographic characteristics							
Age	43.41	13.85	48.85	17.04	−5.45	0.39	0.00
Employed	0.64	0.48	0.51	0.50	0.13	0.01	0.00
Russian Orthodox	0.89	0.32	0.85	0.35	0.03	0.01	0.00
Panel C: Education							
Primary school or below	0.09	0.29	0.14	0.35	−0.05	0.01	0.00
Secondary school	0.57	0.49	0.60	0.49	−0.03	0.01	0.01
College or above	0.33	0.47	0.25	0.44	0.08	0.01	0.00
Panel D: Occupation category							
Managers/Professionals	0.58	0.49	0.52	0.50	0.06	0.01	0.00
Clerical/Services	0.28	0.45	0.31	0.46	−0.02	0.01	0.07
Blue-collar	0.09	0.29	0.14	0.34	−0.04	0.01	0.00
Agriculture/Craft	0.04	0.19	0.03	0.17	0.01	0.01	0.29
Military	0.00	0.07	0.00	0.03	0.00	0.00	0.00
Observations	15992		11815				
Individuals	3800		3066				

Notes: This table describes welfare measures that are my dependent variables (Panel A), demographic characteristics (Panel B), an education level (Panel C), and occupation category (Panel D) for married (Treated) and unmarried women (Control) and their differences before the criminal law reform (2011-2015). The marital status is that of 2015. Occupation classification follows ISCO-08 (International Labour Office 2012) and defined as follows: Managers/Professionals (group 1, 2, and 3), Clerical/Services (group 4 and 5), Blue-collar (group 8 and 9), Agriculture/Craft (group 6 and 7), and Military (group 0). P-values of the difference between treated and control are calculated with standard errors clustered at the individual level.

"at respondent's home / place of residence."[10] The main variables of interest are the answers to the question about (i) how justifiable "For a man to beat his wife" is and (ii) how much justifiable "Violence against other people" is. I use the former as a proxy for an attitude toward intimate partner violence and the latter for an attitude toward non-domestic violence, both are affected by the reform. Around the criminal law reform, Russia was surveyed in 2011 and 2017. Thus, I use these two waves of the Russian survey. I include both women and men in the analysis but limit the sample to ages 18-74 to make it consistent with the RLMS.[11]

Table 4 describes attitude measures for everyone and each gender (Panel A), demographic

10. https://www.worldvaluessurvey.org/WVSContents.jsp

11. Russia was also surveyed in 2006, which may have enabled me to test the parallel trend assumption. However, the 2006 survey does not include attitude variables other than toward domestic violence.

Table 4: Summary statistics for WVS data: After vs. before the reform

	Post (2017)		Pre (2011)		Difference (Post – Pre)		
	Mean	SD	Mean	SD	Mean	SE	P-value
Panel A: Attitude measures							
All							
Beating wife justifiable (0-1)	0.11	0.20	0.09	0.17	0.02	0.01	0.00
Violence against others justifiable (0-1)	0.11	0.19	0.07	0.15	0.04	0.01	0.00
Female							
Beating wife justifiable (0-1)	0.09	0.18	0.07	0.16	0.02	0.01	0.00
Violence against others justifiable (0-1)	0.09	0.17	0.06	0.14	0.03	0.01	0.00
Male							
Beating wife justifiable (0-1)	0.14	0.21	0.11	0.18	0.03	0.01	0.01
Violence against others justifiable (0-1)	0.13	0.21	0.09	0.17	0.04	0.01	0.00
Panel B: Demographic characteristics							
Age	43.17	15.17	44.04	15.77	−0.87	0.49	0.08
Female	0.58	0.49	0.54	0.50	0.03	0.02	0.04
Married	0.49	0.50	0.57	0.50	−0.08	0.02	0.00
Employed	0.64	0.48	0.64	0.48	0.00	0.02	0.78
Panel C: Education							
Primary school or below	0.10	0.30	0.01	0.07	0.09	0.01	0.00
Secondary school	0.23	0.42	0.67	0.47	−0.44	0.01	0.00
College or above	0.67	0.47	0.32	0.47	0.35	0.01	0.00
Observations	1699		2359				

Notes: This table describes attitude measures for all and by gender (Panel A), demographic characteristics (Panel B), and an education level (Panel C) for everyone surveyed after (Post) and before the criminal law reform was introduced (Pre) and their differences. P-values of the difference between after and before are calculated with heteroskedasticity-robust standard errors.

characteristics (Panel B), and education level (Panel C) for everyone surveyed after (2017, Post) and before (2011, Pre) the criminal law reform and their differences. Panel A shows that people's attitude toward violence has deteriorated from 2011 to 2017: people became more tolerant toward beating wife and violence against others.[12] The deterioration is observed both for women and men, but men's deterioration is slightly larger. Looking at the pre-period, women have less tolerance toward all the violence measures.

Panel B shows there are some unbalances between the two periods: there are 8 percentage points fewer married people and 3 percentage points more women in the post-period, while age and employment status are not significantly different. Panel C also shows that people are more educated in the post-period than in the pre-period. Thus, I control these variables in the analysis to make the two periods more comparable.

12. The answer choices are 1-10 with 1 being "Never justifiable" and 10 being "Always justifiable." I rescaled the answers into [0,1] to make interpretation easier. The same apples to other attitude measures

4 Empirical strategy

4.1 Analysis of married women's welfare

I examine the effect of the decriminalization of light intimate partner violence on married women's welfare using the RLMS; I focus on married women because they are the group most exposed to intimate partner violence. I use unmarried women as a control group;[13] unmarried women's welfare may have also been negatively affected by the bill through a drop in their expected utility from marriage. Yet, even so, my estimate would be conservative.[14]

I define the event year to be 2016 because (i) the Russian Orthodox Church already made a statement that the criminal law reform should include the decriminalization of light domestic violence immediately after its enactment in July 2016, and it was very difficult to object to the Church in Russia at that time (and even now; see Gorbunova and Ovsyannikova 2016), (ii) the bill to decriminalize the light domestic violence was introduced to the national congress in November 2016, and (iii) most 2016 data was collected from October to December 2016. As shown later, in Panel A of Figure 7, this seems a valid assumption: married women's life satisfaction drops in 2016 and stays at the lower level. There was no other event that only affected married women's life satisfaction.

Thus, I estimate the following event study form of the difference-in-differences equation via OLS using individual-level panel data with married women as a treated group and unmarried women as a control group, both defined as of 2015 marital status, to address the potential endogeneity of marital status to the reform:

$$Y_{it} = \sum_{l=2011, l\neq 2015}^{2019} \beta_l \mathbb{1}[t = l] \times Treated_i + \mu_i + \delta_{r(it)e(i)o(it)t} + \epsilon_{it} \tag{1}$$

where each variable is defined as follows:

- $Y_{it} \in \mathbb{R}$: a welfare measure of individual i in year t, normalized by the base year standard deviation.
- $Treated_i \in \{0, 1\}$: an indicator variable equals 1 if individual i is married as of 2015, 0 otherwise.
- μ_i: individual fixed effects.
- $\delta_{r(it)e(i)o(it)t}$: year-region-education-occupation fixed effects.
- ϵ_{it}: a random error.

and $\mathbb{1}$ is an indicator function. Standard errors are clustered at the individual level.

Individual fixed effects capture individual-level unobserved heterogeneity, and year-region-education-occupation fixed effects capture any macroeconomic shocks specific in a given region in a given education level in a given occupation category. As discussed in section 3.1, the occupation

13. Men should have followed a different time trend; for example, they were in different kinds of industries and thus were affected by macroeconomic shocks differently.

14. I define one's marital status at 2015 as discussed later, so the effect on unmarried women may also include actual drop in utility. In any case, my estimate on married women would be conservative.

category is the sector which individual i belongs to, regardless of their employment status.

As discussed in section 3.1, I restrict the sample to women between 18 and 74 years old because people below 18 years old cannot get married in Russia and women above 74 years old must be too old to be victims of intimate partner violence. I also exclude unmarried women who live with their partners and women who are married but live separately to have a cleaner estimate. Thus, the treated group includes married women who live with their partners, and the control group includes unmarried women who do not live with their partners, both as of 2015.

The first key identification assumption is the parallel trend: treated and control women's welfare follows the same time trend in the absence of the reform, conditional on time-invariant individual-level unobservables and macroeconomic shocks specific in a given region in a given educational level in a given occupation category. The second key identification assumption is that the decriminalization of non-domestic violence affected married and unmarried women's welfare in the same degree. Under these assumptions, β_ls ($l = 2016, ..., 2019$) capture the year-by-year effect of the light intimate partner violence decriminalization. β_ls ($l = 2011, ..., 2014$) capture any differential time trend between treated and control women before the light intimate partner violence decriminalization, which serves as a sanity check of the parallel trend assumption.

4.2 Analysis of people's attitudes toward intimate partner violence

I also examine the effect of the light intimate partner violence decriminalization on people's attitude toward intimate partner violence using the WVS. I focus on both women and men in this analysis with men's attitudes as a check that the effect is specific to women.

Because the WVS only contains data in 2011 and 2017, I use the 2011 data as the pre-period and the 2017 data as the post-period, as discussed in section 3.2. Also, since the WVS is not a panel, I use the attitude toward violence against others as a control and take a difference between married and unmarried people. In absence of the criminal law reform, the attitudes toward intimate partner violence and violence against others should have evolved in the same way for married and unmarried people.

These considerations motivate me to estimate the following difference-in-differences equation via OLS:

$$Y_i^{\Delta} = \beta_1 Married_i \times Post_i + \beta_2 Married_i + \beta_3 Post_i + X_i'\gamma + \delta_{r(i)} + \epsilon_i \tag{2}$$

where each variable is defined as follows:

- $Y_i^{\Delta} \equiv Y_i^{IPV} - Y_i^{violence\ others}$: the difference between the attitudes toward intimate partner violence and violence against others of individual i.
  - $Y_i^{IPV} \in \mathbb{R}$: the attitude toward intimate partner violence of individual i.
  - $Y_i^{violence\ others} \in \mathbb{R}$: the attitude toward violence against others of individual i.
- $Married_i \in \{0, 1\}$: an indicator variable equals 1 if individual i is married, 0 otherwise.
- $Post_i \in \{0, 1\}$: an indicator variable equals 1 if individual i is in the post-period, 0 otherwise.
- X_i: a vector of characteristics of individual i.

- $\delta_{r(i)}$: region fixed effects.
- ϵ_i: a random error.

Standard errors are heteroskedasticity-robust.

The key identification assumptions are again the parallel trend and the balance between the two periods: (i) the difference between married and unmarried people's attitude toward intimate partner violence and violence against others follow the same time trend in the absence of the criminal law reform and (ii) the composition of married and unmarried people is balanced between the two periods with respect to characteristics that affect their attitudes, conditional on the covariates within each region. Under these assumptions, β_1 captures the effect of the decriminalization of light intimate partner violence on married people's attitude toward it. However, because I cannot test these assumptions, I consider this analysis suggestive.

5 Results

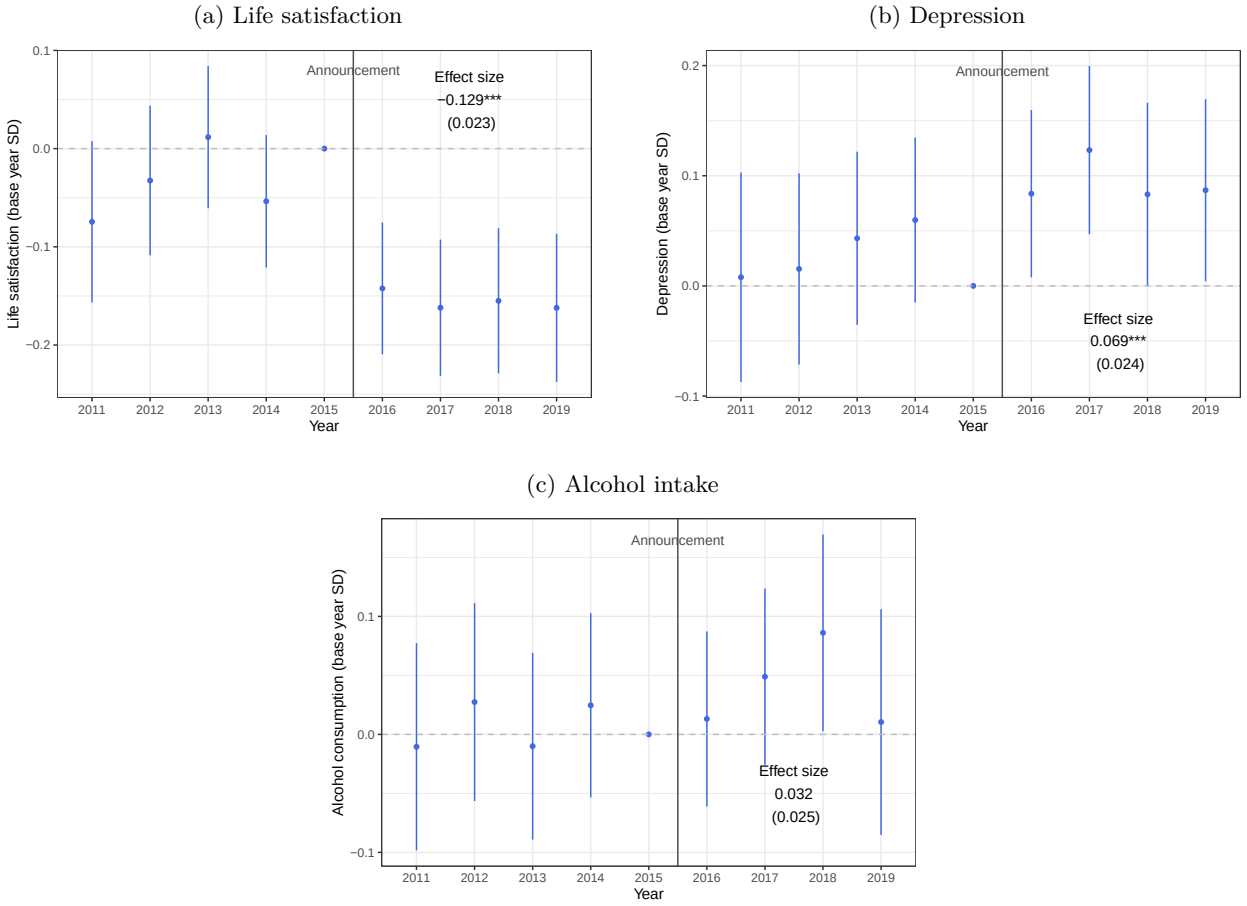
5.1 The effect of the reform on married women's welfare

Figure 7 presents the OLS estimates of β_ls of equation 1 for life satisfaction (Panel A), depression (Panel B), and alcohol intake (Panel C) normalized by the base year (2015) standard deviation and their 95% confidence intervals. Panel A shows that before the criminal law reform, the life satisfaction of the treated and control women roughly follows the same time trend, consistent with the parallel trend assumption. After the reform, however, the treated women's life satisfaction drops and stays at the lower level. Panel B shows that even before the reform, depression levels of the treated and control women follow somewhat different time trends, with treated women trending upward. However, after the reform, the treated women's trend jumps up and stays at the higher level. Panel C shows that the treated and control women follow roughly the same time trends before the reform, and while the treated women seem to have increased their alcohol intake after the reform, the increase is statistically insignificant and quantitatively small.

Looking at the average effect size inside each figure, Panel A shows that the reform decreased treated women's life satisfaction by 12.9 percentage point base year standard deviations, and Panel B shows that the reform increased treated women's depression by 6.9 percentage point base year standard deviations. They are quantitatively sizable and statistically highly significant. Although positive, the reform did not increase alcohol intake statistically significantly (Panel C); the statistically insignificant increase could be because drinking alcohol and the traditional gender norm are incompatible, which may be enforced after the reform. Appendix Table A1 shows the stability of the estimates by gradually adding fixed effects.

For the results in Figure 7 to capture the effect of the decriminalization of intimate partner violence, the decriminalization of non-domestic violence should have affected married and unmarried women's welfare in the same way. While I cannot test this assumption directly, Table 5 shows some support on this: the effect of the criminal law reform is similar for college educated and non-college educated women, and women in a high-qualified and non-high-qualified occupations. Although they

Figure 7: Effect of the reform on married women's welfare



Notes: This figure presents the OLS estimates of β_ls of equation 1 for life satisfaction (Panel A), depression (Panel B), and alcohol intake per day (Panel C) normalized by the base year (2015) standard deviation along with their 95% confidence intervals. All specifications include individual fixed effects and year-region-education-occupation fixed effects. The average effect size and its standard error are shown inside the figure. The vertical lines indicate the announcement year of the light intimate partner violence decriminalization (2016). Standard errors are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.

are not clean tests, if married and unmarried women responded differently to the decriminalization of non-domestic violence, then they were college-educated women and women in a high-qualified occupation who should hold more progressive norms regarding violence, which is not the case in the data.

5.2 Changes in people's attitudes toward intimate partner violence

To elaborate the results of the welfare analysis, Table 6 presents the OLS estimates of equation 2 for women (column 1-2), men (column 3-4), and all (column 5-6). Appendix Table A2 repeat the same analysis but with attitude measures normalized by their gender-specific pre-period mean to addresses the concern that the trend between the treated and control attitudes are not the same,

Table 5: Effect of the reform on married women's welfare (effect heterogeneity)

Dependent variable:	Life satisfaction (base year SD)			Depression in the past 12 months (base year SD)			Alcohol intake per day (base year SD)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treated x Post	−0.129***	−0.129***	−0.115***	0.069***	0.054*	0.078***	0.032	0.003	0.029
	(0.023)	(0.026)	(0.029)	(0.024)	(0.028)	(0.030)	(0.025)	(0.030)	(0.033)
Treated x Post x College or above		0.002			0.033			0.064**	
		(0.027)			(0.029)			(0.031)	
Treated x Post x Managers/Professionals			−0.023			−0.014			0.005
			(0.028)			(0.030)			(0.032)
Individual FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Time-Region-Education-Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Treated pre-period mean	0.627	0.627	0.627	0.093	0.093	0.093	29.499	29.499	29.499
Treated pre-period SD	0.243	0.243	0.243	0.291	0.291	0.291	48.186	48.186	48.186
Treated base year SD	0.245	0.245	0.245	0.275	0.275	0.275	46.352	46.352	46.352
Adj. R-squared	0.453	0.453	0.453	0.263	0.263	0.263	0.425	0.425	0.425
Observations	28154	28154	28154	27849	27849	27849	28122	28122	28122
Individuals	4861	4861	4861	4844	4844	4844	4862	4862	4862

Notes: This table presents standard difference-in-differences estimates from equation 1 and their heterogeneity with respect to education and occupation. Standard errors in parenthesis are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.

but their changes are.[15]

The coefficient estimate on the married dummy in column 1 is negative and statistically significant, suggesting that married women was less tolerant toward intimate partner violence before the criminal law reform. However, the sum of the the coefficient estimates on the post dummy and on the post dummy times the married dummy is close to 0, suggesting that married women did not become less tolerant toward intimate partner violence. In contrast, the coefficient estimate on the post dummy is negative and statistically significant, suggesting that unmarried women became less tolerant toward intimate partner violence. Column 2 controls for individual characteristics and shows that these results are not due to potential unbalance between the two periods.

The coefficient estimate on the married dummy in column 3 shows that married men was no less tolerant toward intimate partner violence. While unmarried men may became less tolerant toward intimate partner violence, the estimate is too noisy to be statistically insignificant as shown in the coefficient estimate on the post dummy. On the other hand, married men did not, as shown in the coefficient estimate on the married dummy times the post dummy. These results roughly hold even after controlling for individual characteristics.

The coefficient estimate on the married dummy times the post dummy times the female dummy in column 5 is positive albeit statistically insignificant, showing that compared to married men, married women indeed became more tolerant toward domestic violence. As shown in column 6, controlling for individual characteristics gives qualitatively the same results. All the results hold even when we normalize the attitude measures with their gender-specific pre-period mean, presented in Appendix Table A2, which addresses the concern that the trend between the treated and control

15. The estimates in Appendix Table A2 are close to Athey and Imbens (2006)'s change-in-change model; thus, when the parallel trend assumption holds for Table 6's results, it does not hold for results in Appendix Table A2, and vice versa.

Table 6: Changes in people's attitudes toward intimate partner violence

Dependent variable:	Intimate partner violence justifiable (relative to violence against others)					
Sample:	Female		Male		All	
	(1)	(2)	(3)	(4)	(5)	(6)
Married x Post	0.015	0.017	−0.004	0.001	−0.002	0.003
	(0.013)	(0.013)	(0.021)	(0.021)	(0.021)	(0.021)
Married	−0.022***	−0.021***	−0.004	−0.015	−0.004	−0.015
	(0.007)	(0.008)	(0.011)	(0.012)	(0.011)	(0.012)
Post	−0.019**	−0.018*	−0.019	−0.014	−0.020	−0.014
	(0.009)	(0.010)	(0.018)	(0.018)	(0.018)	(0.018)
Age		−0.002		0.002		0.002
		(0.002)		(0.002)		(0.002)
Age squared		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)
Employed		0.013*		0.023*		0.023*
		(0.008)		(0.013)		(0.013)
Secondary school		0.008		−0.006		−0.003
		(0.016)		(0.029)		(0.029)
College or above		0.005		−0.036		−0.034
		(0.015)		(0.028)		(0.028)
Married x Post x Female					0.018	0.015
					(0.025)	(0.025)
Female					−0.001	0.082
					(0.011)	(0.059)
Post x Female					0.000	−0.006
					(0.020)	(0.021)
Married x Female					−0.019	−0.007
					(0.014)	(0.015)
Age x Female						−0.004*
						(0.003)
Age squared x Female						0.000
						(0.000)
Employed x Female						−0.010
						(0.015)
Secondary school x Female						0.009
						(0.032)
College or above x Female						0.038
						(0.032)
Region FE	✓	✓	✓	✓	✓	✓
P-value: Married x Post + Post	0.733	0.954	0.038	0.279		
Adj. R-squared	0.001	0.001	0.013	0.020	0.006	0.010
Observations	2171	2151	1676	1650	3847	3801

Notes: This table presents difference-in-differences estimates from equation 2. Standard errors in parenthesis are heteroskedasticity-robust. Significance levels: * 10%, ** 5%, and *** 1%.

attitudes are not the same, but their changes are. One likely explanation of these results is that the criminal law reform muted married women's opinion because the law no longer protected them from light intimate partner violence.

Taken together, the results show that the light intimate partner violence decriminalization decreased married women's welfare and that the legal institution is still important to protect women even from non-serious abuses.

6 Conclusion

This paper studies the effect of the decriminalization of light intimate partner violence on married women's welfare using the Russia's criminal law reform that decriminalized light domestic and non-domestic violence as a natural experiment. Using difference-in-differences and flexibly controlling for macroeconomic shocks with unmarried women as a control group, I find that the reform decreased married women's life satisfaction and increased the depression level. I also find suggestive evidence that while unmarried women began to express less tolerance toward intimate partner violence, married women did not, presumably because the reform muted married women's voice as the law no longer protected married women from their partners' light abuse. I find no significant change in men's attitude toward intimate partner violence, suggesting that the effect is specific to women. These results suggest that the decriminalization of light intimate partner violence reduces women's welfare and highlight the importance of legal institutions to harness abuse by male partners, even if they are light ones.

The key limitation of my analysis is that I do not have data on individual-level intimate partner violence occurrence, hence all the analysis are reduced form, examining the criminal law reform on married women's welfare without examining the effect on intimate partner violence per se. Although it is difficult to collect individual-level intimate partner violence data in Russia, future research would use more granular data to tackle this and related questions. That said, light intimate partner violence would be hard to measure even if I had full access to all the proprietary data because it would not appear in the hospital or police record. Thus, although it is reduced form, this paper provides a piece of evidence that legal institutions matter even for light abuses by male partners.

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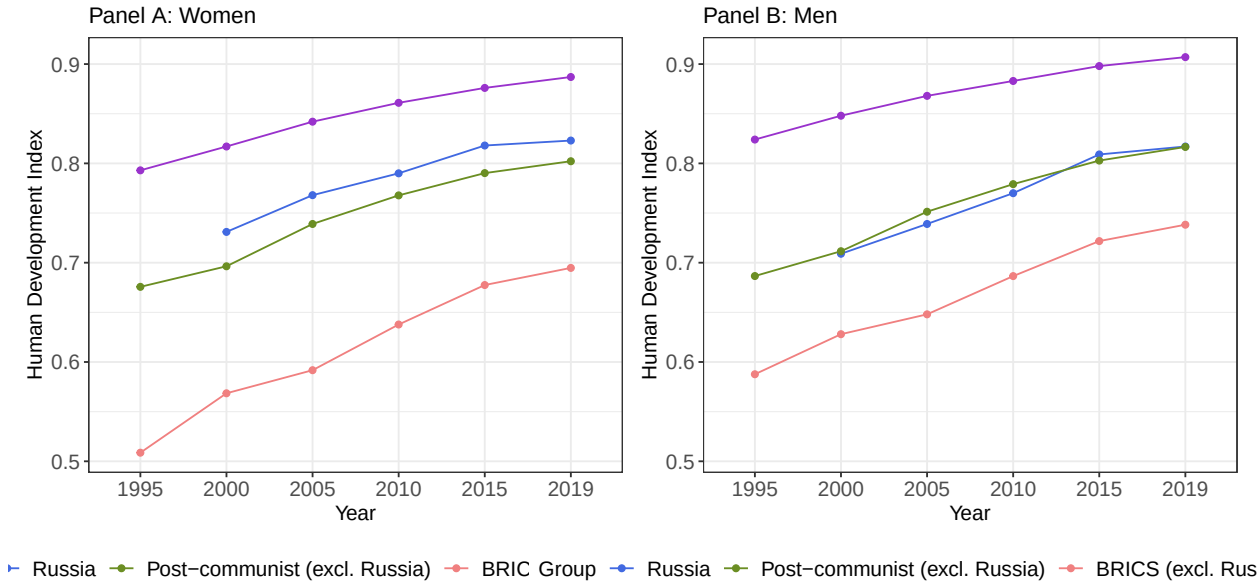
Appendix

A Additional Figures and Tables

Figure A1: Human Development Index of Russia and groups of countries, by gender



Notes: This figure plots women's (Panel A) and men's (Panel B) human development index (HDI) for Russia (blue), post-communist countries other than Russia (green), BRICS other than Russia (red), and OECD countries (purple) for the period from 1995 to 2019. For the exact calculation of the index, see the technical notes of the United Nations Development Programme (2020). Other BRICS and post-communist countries are defined in Figure 1.
Source: UNDP Human Development Reports, Gender Development Index (https://hdr.undp.org/en/indicators/136906 for women, https://hdr.undp.org/en/indicators/137006 for men). Retrieved on February 15, 2022.

Table A1: Effect of the reform on married women's welfare (stability of the estimates)

Dependent variable:	Life satisfaction (base year SD)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated x Post	−0.133***	−0.092***	−0.092***	−0.092***	−0.092***	−0.129***	−0.129***
	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)	(0.023)	(0.023)
Treated	0.512***						
	(0.019)						
Post	0.078***	0.031**					
	(0.014)	(0.013)					
Individual FE		✓	✓	✓	✓	✓	✓
Time FE			✓				
Time-Region FE				✓			
Time-Region-Education FE					✓		
Time-Region-Occupation FE						✓	
Time-Region-Education-Occupation FE							✓
Adj. R-squared	0.051	0.471	0.471	0.471	0.471	0.454	0.453
Observations	49053	49053	49053	49053	48976	28183	28154
Individuals	7148	7148	7148	7148	7139	4866	4861
Dependent variable:	Depression in the past 12 months (base year SD)						
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Treated x Post	0.060***	0.053***	0.054***	0.054***	0.054***	0.070***	0.069***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.024)	(0.024)
Treated	−0.042**						
	(0.018)						
Post	−0.070***	−0.049***					
	(0.014)	(0.014)					
Individual FE		✓	✓	✓	✓	✓	✓
Time FE			✓				
Time-Region FE				✓			
Time-Region-Education FE					✓		
Time-Region-Occupation FE						✓	
Time-Region-Education-Occupation FE							✓
Adj. R-squared	0.001	0.294	0.295	0.294	0.294	0.264	0.263
Observations	48516	48516	48516	48516	48440	27878	27849
Individuals	7142	7142	7142	7142	7133	4849	4844
Dependent variable:	Alcohol intake per day (base year SD)						
	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Treated x Post	−0.001	−0.001	0.001	0.001	0.005	0.032	0.032
	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)	(0.025)	(0.025)
Treated	0.093***						
	(0.020)						
Post	−0.048***	−0.057***					
	(0.013)	(0.013)					
Individual FE		✓	✓	✓	✓	✓	✓
Time FE			✓				
Time-Region FE				✓			
Time-Region-Education FE					✓		
Time-Region-Occupation FE						✓	
Time-Region-Education-Occupation FE							✓
Adj. R-squared	0.003	0.444	0.446	0.446	0.446	0.425	0.425
Observations	49046	49046	49046	49046	48969	28151	28122
Individuals	7150	7150	7150	7150	7141	4867	4862

Notes: This table presents standard difference-in-differences estimates from equation 1 but gradually adds fixed effects to show the stability of the estimates. Standard errors in parenthesis are clustered at the individual level. Significance levels: * 10%, ** 5%, and *** 1%.

Table A2: Changes in people's attitudes toward intimate partner violence (normalized by gender-specific pre-period mean)

Dependent variable:	Intimate partner violence justifiable (relative to violence against others)					
Sample:	Female		Male		All	
	(1)	(2)	(3)	(4)	(5)	(6)
Married x Post	0.194	0.201	−0.076	−0.026	−0.051	−0.004
	(0.210)	(0.213)	(0.209)	(0.210)	(0.210)	(0.211)
Married	−0.304***	−0.270**	0.016	−0.106	0.022	−0.099
	(0.116)	(0.125)	(0.112)	(0.123)	(0.112)	(0.123)
Post	−0.386***	−0.351**	−0.270	−0.217	−0.285	−0.222
	(0.146)	(0.158)	(0.179)	(0.182)	(0.180)	(0.183)
Age		−0.025		0.019		0.021
		(0.024)		(0.021)		(0.021)
Age squared		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)
Employed		0.188		0.226*		0.222*
		(0.122)		(0.128)		(0.129)
Secondary school		0.146		−0.003		0.028
		(0.249)		(0.293)		(0.292)
College or above		0.069		−0.282		−0.265
		(0.244)		(0.284)		(0.283)
Married x Post x Female					0.258	0.219
					(0.296)	(0.299)
Female					0.177	1.071
					(0.131)	(0.726)
Post x Female					−0.108	−0.141
					(0.230)	(0.239)
Married x Female					−0.334**	−0.179
					(0.161)	(0.175)
Age x Female						−0.048
						(0.032)
Age squared x Female						0.000
						(0.000)
Employed x Female						−0.038
						(0.178)
Secondary school x Female						0.100
						(0.382)
College or above x Female						0.324
						(0.374)
Region FE	✓	✓	✓	✓	✓	✓
P-value: Married x Post + Post	0.229	0.386	0.002	0.056		
Adj. R-squared	0.003	0.002	0.013	0.021	0.006	0.008
Observations	2171	2151	1676	1650	3847	3801

Notes: This table presents difference-in-differences estimates from equation 2, but normalizes each attitude measure by the gender-specific pre-period mean. Standard errors in parenthesis are heteroskedasticity-robust. Significance levels: * 10%, ** 5%, and *** 1%.