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ROLE OF EDUCATION IN PREVENTING DOMESTIC VIOLENCE

Bilkent University 2017

# ROLE OF EDUCATION IN PREVENTING DOMESTIC VIOLENCE

A Master's Thesis

by

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Department of  
Economics

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Ankara

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ROLE OF EDUCATION IN PREVENTING DOMESTIC VIOLENCE

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Ramiz Abdurahimov


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ANKARA

September 2017

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts in Economics.

  
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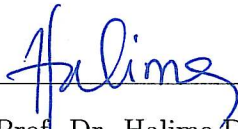
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## ABSTRACT

### ROLE OF EDUCATION IN PREVENTING DOMESTIC VIOLENCE

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This study explores the relationship between female education and domestic violence, utilizing a change in compulsory schooling law. We employ regression discontinuity design and instrumental variable estimation method to analyze the effect of the policy. The years of schooling for women has increased by a half-year. We find that increased years of schooling is accompanied by a decline in sexual violence and physical violence, while psychological violence, social control behavior and financial control behavior from partners remain unchanged. Among the underlying channels through which education translates into domestic violence, improvements in the marriage market seem dominant. Better educated women are found to be less likely to divorce and more likely to exercise their own marriage decision, and marry men with better socio-economic status. Women's gender attitudes have improved, while labor market outcomes remain unchanged.

*Keywords:* Domestic Violence, Education, Regression Discontinuity Design

## ÖZET

### AİLE İÇİ ŞİDDETİN ÖNLENMESİNDE EĞİTİMİN ROLÜ

Abdurahimov, Ramiz  
Yüksek Lisans, İktisat Bölümü  
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Bu çalışmada kadın eğitimi ve aile içi şiddet arasındaki ilişki zorunlu eğitim kanunundan yararlanılarak araştırılmaktadır. Bu politikanın etkilerini incelerken regresyon süreksizliği analizi ve araç değişken tahminleri kullandık. Kadınların eğitim süresinin yarım yıl arttığı bulunmuştur. Elde ettiğimiz bulgulara göre kadınların eğitim süresi arttıkça cinsel ve fiziksel şiddete maruz kalma oranları azalmıştır. Eşler tarafından uygulanan psikolojik şiddet, sosyal ve finansal kontrol davranışlarında ise değişim görülmemiştir. Eğitim ve aile içi şiddet arasındaki ilişkinin en önemli unsurunun evlilik kurumu olduğu görülmüştür. Daha eğitilmiş kadınların boşanma oranları azalmış olup, eşlerini kendi iradeleri ile seçme olasılığının arttığı, ayrıca sosyo-ekonomik bakımdan daha iyi eşler ile evlendikleri bulunmuştur. Kadınların toplumsal cinsiyet normları hakkındaki tutumları iyileşmiş ve emek piyasasındaki pozisyonları değişmemiştir.

*Keywords:* Aile İçi Şiddet, Eğitim, Regresyon Süreksizliği Analizi

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction and Literature Review

Violence against women has been a serious social problem that has considerable economic effects. Its effect on economy mostly channels through the labor market. The cost of domestic violence to society is enormous, such that, it causes lower productivity, absenteeism from work, increased health and security expenditures, while children that witness abuse at home are more likely to develop mental and psychological deficiencies. The direct cost of violence against women is estimated to be around 1-2% of GDP (Duvvury et al., 2013). Aguero (2013) finds that, although violence against women affects women's and their children's health negatively, it is a major cause for divorce, which in turn pushes women to increase their labor supply. Carrell and Hoekstra (2012), studies the consequences of children witnessing domestic violence at home, in particular its effects on his/her peers. Carrell and Hoekstra (2010) estimate this effect, finding that in a class of 20 students, adding

one child who was exposed to domestic violence to the class, decreases their test scores by 0.69 percentage points, namely in math and reading courses. It also increases the number of disciplinary actions by 17%. Santos (2013) finds the cost of domestic violence to victims to be €25000, despite it being regarded as a "private matter".

There are different hypotheses that try to explain the role of education and female economic empowerment in preventing violence against women. One such explanation dictates that access to better employment opportunities, income and welfare payments increase women's bargaining power and outside option, thus rendering her unwilling to stay in an abusive relationship (Farmer and Tiefenthaler, 2003, Stevenson and Wolfers, 2006, Aizer, 2010, Hidrobo and Fernald, 2013). From an alternative point of view, better social and economic position of women encourage their partners to use violence as an instrument as means to extract resources (Rao, 1999, Eswaran and Malhotra, 2011, Bobonis et al., 2013).

Domestic abuse is rampant in Turkey. According to DESA (2010), 40% of women in Turkey had experienced some form of intimate partner violence. We aim to investigate the effect of education on domestic violence using the 1997 Compulsory Schooling Law. Prior to 1997, the education system was composed of the mandatory component of five years of primary school, and the voluntary component of three years of junior high school and three years of high school. After the enforcement of the law in 1997-1998 school-year, students were to complete eight years of mandatory schooling before having an option to drop out. Therefore individuals born before January 1987 could drop out after their five years at school, whereas those who were born after January 1987 had to complete eighth grade. We expand on the context and intents of the law in the further sections.

The Compulsory Schooling Law required immediate enforcement and had a political

motive, hence it serves as a natural experiment. Several studies utilize the law to study various non-market outcomes in Turkey. Gulesci and Meyersson (2012) investigate the effects of the law on female religiosity. They show that the reform resulted in a one-year increase in years of schooling on average among women. The education increase resulted in women reporting lower levels of religiosity, greater decision rights over marriage and contraception, as well as higher household durable consumption. Dinçer et al. (2014) find a positive and significant connection between female education and child health and mortality. They report that 10 percentage point increase in the proportion of ever married women with eight years of schooling lowered number of pregnancies per woman by 0.13 and number of children per women by 0.11.

Erten and Keskin (2016) study the effect of education on domestic violence. Using 2008 Turkey's National Survey on Domestic Violence against Women, they find positive correlation between increased years of schooling and labor market outcomes. They also report a significant increase in psychological violence and financial control behavior experienced by women raised in rural areas, while they report no significant changes in physical and sexual violence as a result of the reform. They find no evidence on whether the education law had a significant effect on domestic violence attitudes, including violence against women or violence against children.

We adopt Regression Discontinuity (RD) design along with 2014 Turkey's National Research on Domestic Violence against Women (TNRDVW) micro data set to estimate the causal effects of the 1997 Compulsory Schooling Law on violence against women and channels through which education influences the violence outcomes. The RD design is a quasi-experimental method that allows us to assign the status of treatment group (those affected by the reform) and control group (those who were not affected by the reform) clearly. January 1987 cohort is the first

to be affected by the reform and our main identifying assumption is that individuals born one month apart from each other (before and after January 1987) do not display any systematic differences.

The earlier study (Erten and Keskin, 2016) employs 2008 data, whose oldest respondents that were affected by the reform were at the age of 22 at the time of survey. These women were 27 years old in 2014 which should exhibit a longer-run behavior of couples. Considering that the average marriage age for women in Turkey is 20, most of the "treated" women were unmarried back in 2008 youngest ones being 16. The youngest "treated" women we include in our analysis are 23 years-old, which is one standard deviation above the average. The results of this paper should be considered as complementary to previous studies, rather than a substitute.

Our analysis not only reports the effects of exogenous increase in education on domestic violence, but also explores the channels through which the former two are linked. Firstly, we test whether the Compulsory Schooling Law had an impact on women's attitudes towards gender norms and domestic abuse. Improvement in these attitudes coincide with women being more aware of their rights and growing less tolerant of being in an abusive relationship. Secondly, we examine how the labor market outcomes for women have changed as a result of the reform. These results accompanied by the trends in domestic violence, would hint towards either the household bargaining or instrumental violence theories. Thirdly, we consider the effect education has on marriage market outcomes, as highly educated women are more likely to marry men with higher socio-economic status.

We find that the years of schooling for women who have ever had a relationship increased by 0.596 years and junior high school completion rate has gone up by 19.8 percentage points (ppts). Women who grew up in rural areas received 1.815 more years of schooling and junior high school completion rate has increased by 37.8 ppts

as a result of the reform. We find no evidence of an increase in years of schooling for women who grew up in urban areas.

We introduce 5 categories of violence: physical (severe and mild), psychological, sexual, social control behavior and financial control behavior. We construct indexes for each category by averaging z-scores of dummies of having experienced an act of abuse under the relevant classes of violence. Our findings indicate a 17.1 and 20.1 ppt decrease in physical and sexual violence, respectively. The significant part of the decline in physical violence can be attributed to a 22 ppt reduction in severe physical violence. Physical violence (mainly stemming from severe degree) has decreased by 27.4 ppt (32.9 ppt) for women raised in rural areas.

We also examine the causal channels that were effective in reducing the violence experienced by women. We find no evidence of a change in women's gender attitudes, especially in attitudes towards husband's right to use violence, right to beat children and women's right to refuse sex. We also fail to find any significant effect of the reform on women's labor market outcomes.

We proceed by investigating the effect of the Compulsory Schooling Law on marriage market. Women's marriage decision rate has increased by 11.2 ppt – women became more likely to exercise their choice of partners after the reform. Also the husband's employment rate has increased, while the partner's propensity of having experienced violence during his childhood, and divorce rates have declined. Only marriage decision for women who grew up in rural areas have increased (by 22.8 ppt).

Overall we find a negative relationship between education and violence against women. The main causal channel in reducing the violence is marriage market. More educated women are better at differentiating partners, thus have better access to resources and experience less violence and divorces.



## 1.2 Overview of Compulsory Schooling Law in Turkey

Since the establishment of the Republic of Turkey in 1923, education was managed by the central government entity, namely The Ministry of National Education. The Ministry of National Education is in charge of all structural reforms and education policies.

The Turkish National Education System has two parts: formal, which is mainly conducted in schools, and non-formal, that is carried out by out-of-school institutions such as public education centers, vocational schools or practical art schools for girls.

Prior to 1997, basic education in Turkey consisted of: five years of primary school, three years of junior high school and three years of high school. The primary school was compulsory, while the latter were voluntary. Following the primary school, students could choose to study in general or voluntary/religious (imam-hatip) schools. Turkey's laws required the education to be provided only in Turkish, in a co-educational setting, particularly prohibited wearing headscarf, even in religious schools. This practice, however, had often been neglected in religious schools.

In the light of growing political power, an Islamist party eventually won the 1995 Turkish Grand National Assembly (the parliament) elections, which would be followed by a conflict with secular groups, notably centered in military and judiciary. One of the main points of the strife was the public display and practice of religiosity, especially women wearing headscarf and attending religious education institutions.

In 1997, the military decided to intervene with new set of laws to prevent the spread of Islamist rule. On February 1997, the National Security Council announced the adoption of eighteen amendments in law. One of them, namely Law No. 4306,

stated that the compulsory schooling would be extended from five years to eight. This would not only serve as means to better education, but also would cease the validity of religious schools. The enforcement mechanism was the abolition of the five-year primary school diploma. Instead, an eight-year diploma would be awarded to students who completed eighth grade of primary-school.

The subjects of the Compulsory Schooling Law were determined by the school starting age. Those who completed fifth grade in 1997 were given the option to drop out, whereas those who finished fourth grade and would start fifth grade in 1997-1998 academic year would have to complete eight years to earn the diploma. Therefore individuals born before January 1987 would be exempt from the new enactment, while those who were born after January 1987 would have to complete eight grades. Despite imperfect compliance with the law, fails and repetitions of grades, vast majority followed the new structure.

Apart from legal amendments, considerable amount of funds has been invested to enable this scale of education. Within just a few years 82.000 classrooms were built and 70.000 instructors were recruited. In order to improve the access of students in rural areas, school buses were lunched to remote districts under the Bused Primary Education Scheme (Ministry of National Education, 2011).

The schooling law had an impressive impact on primary school enrollment rates. The net enrollment rate in primary school increased from 84.74 in 1997-1998 academic year to 93.54 in 1999-2000 academic year. The increase in enrollment rates for females (78.97 to 88.45) were greater than males (90.25 to 98.41). The sex ratio in primary education also increased from 85.63 to 88.54 (Ministry of National Education, 2011).

## CHAPTER 2

# DATA AND EMPIRICAL METHODOLOGY

### 2.1 Data

We use 2014 Turkey's National Research on Domestic Violence against Women (TNRDVW) micro data set in this paper. The survey has nation-wide representativeness with a sample size of 15084 households. These households were visited by interviewers in 2014 and face-to-face interviews were completed with women aged 15-59, regardless of whether they had been married, in a relationship (engaged, boyfriend) or neither. Only one woman randomly chosen from each household was interviewed and included in the sample. The survey includes information on the household population and the housing characteristics, background characteristics, marriage history, general health and reproductive health of the women, behavioral problems of their children, background characteristics and behavioral patterns of the husband/partner, and the information on the physical, sexual and psychological acts of violence, social and financial control experienced by

women from their husbands/partners, their relationship with individuals other than their husband/partners and opinions of women on gender norms.

We will only use the sub-sample of women who have ever been married or ever had a relationship (engaged or had a boyfriend), since those who never were in a relationship would trivially not experience violence from an intimate partner, which is the primary goal of this study. We introduce 5 categories of domestic violence: physical violence, psychological violence, sexual violence, social control behavior and financial control behavior. The violence incidences that appear in data are self-reported. Although it is more likely that educated women report these incidences more frequently and accurately, only acts of violence reported to authorities are truthful enough to be recorded and included in analysis. Therefore, the effect of education on domestic violence is probably over-estimated.

We divide the physical violence into two subcategories by the severity of the act of abuse: severe and mild. Severe degree of physical violence is specified as the respondent having ever been kicked, dragged, beaten, choked, burned or threatened with a weapon or a knife by any of her partners. Mild degree of physical violence is defined by the respondent having ever been slapped, pushed, shoved, got hair pulled or punched by any of her partners. Physical violence includes acts of both severe and mild categories. This distinction allows us to examine the physical violence outcomes in greater detail. One would expect a partner to exert mild acts of violence as an instrument. On the other hand, the acts of violence with severe health damage by a partner might be traced to a behavioral or mental disorder.

Psychological violence is measured by the interviewee having been insulted, belittled, humiliated, scared or intimidated by her partner on purpose. Sexual violence is specified as the respondent having ever been forced to have sex, do humiliating sexual things or had an intercourse with the partner due to fear. Social

control behavior is specified by whether the respondent’s partner ever prevented her contact from her family, her contact from her friends, insists on knowing where she is, gets angry if she speaks to another man, is suspicious that she is unfaithful, demands permission for seeking health care, intervenes in her clothes and intervenes in her social network usage. Financial control behavior is defined by whether the respondent’s partner has ever prevented her from working, refused to give her money or took her earnings. We specify the violence measures by averaging the z-scores of dummies of having experienced an act of abuse under the relevant classes of violence. Table reports summary statistics for 23-32 year old women. Columns (1)-(3) lists means, standard deviations and the number of observations for women who have ever had a relationship, and rural and urban childhood regions, respectively. Column (4) reports the differences of columns (3) and (2). We see that there is a statistically significant difference in years of schooling between the rural and urban subsample. Attitudes towards gender norms are more gender-equal for women in urban areas. The average marriage age for women raised in rural and urban areas are 19.9 and 20.5, respectively. This implies that a significant portion of women that we include in our analysis have been married.

## **2.2 Model and Identification**

The methodology we use is Regression Discontinuity design (Imbens and Lemieux, 2008). The change in Compulsory Schooling Law serves as the primary tool for identification of our model. Since the law was to be enforced starting from an exact date (January 1987), regardless of individual preference, treatment status (mandated to receive additional three years of schooling) is assigned randomly and due to the political motive of the reform, manipulation of the requirements for the treatment is impossible. Therefore, our identifying assumption is that individuals

that were born one month apart (before and after January 1987) do not display any systematic differences other than being forced to complete either five or eight years of compulsory schooling. We use the birth month of individuals as the forcing variable of the model. We regard January 1987 as the cutoff to investigate the causal effect of the law.

We use the discontinuity at the cutoff point as the treatment status for reduced-form and as an instrument for two staged least squares regression. We use local linear regression in RD estimations along the optimal bandwidth, calculated via Calonico, Cattaneo, Titiunik algorithm (CCT) (Calonico et al., 2014). The optimal bandwidth for schooling is 50 months (on each side of the cutoff), and it will be used as a static plug-in bandwidth for robustness check of the results. We include following control variables in specifications: a dummy variable for whether the respondent’s interview language was different from Turkish, month-of-birth fixed effects, a dummy variable for having grown up in rural areas, childhood region fixed effects and their interaction. Other information on individuals, such as personal income, type of residence, health status etc. is not included in the regression. Thus, only factors determined prior to the law enforcement will be used as regressors.

## **2.3 Preliminary Checks**

Firstly, we examine the continuity of the forcing variable near the cutoff point using McCrary’s density test (McCrary, 2008). We hypothesize that the estimated kernel density of the month of birth is not continuous at the cutoff. We reject the null hypothesis, thus the discontinuity in dependent variables are not generated by the forcing variable.

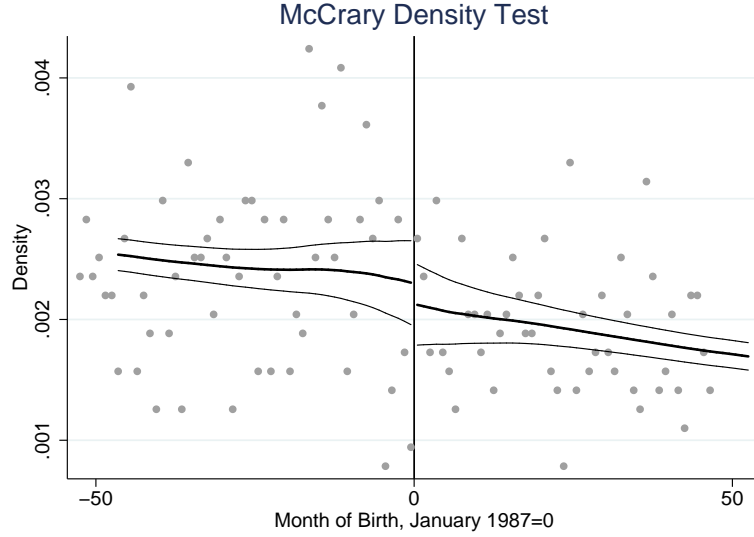
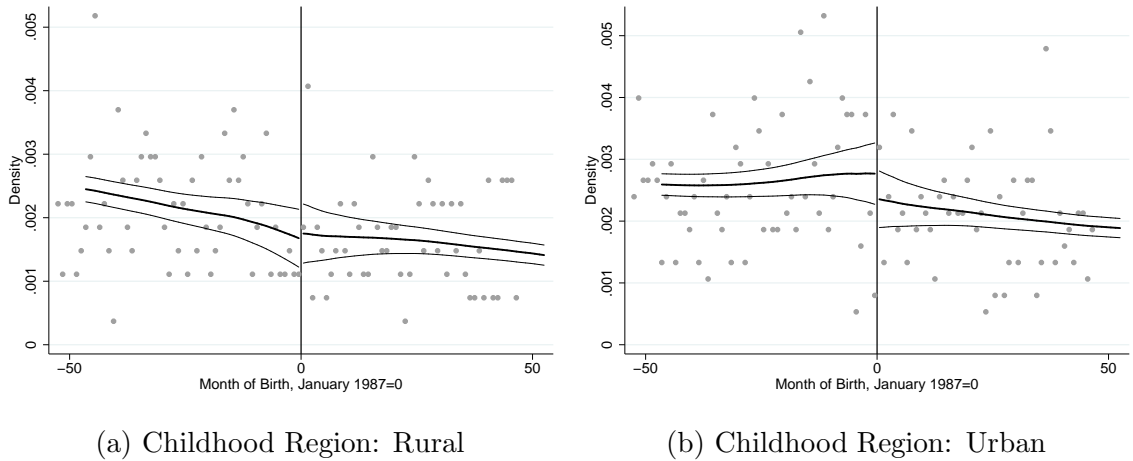


Figure 1: McCrary Density Test

Moreover, we perform McCrary test for the two subsamples that we use later, i.e. childhood region being rural/urban.



(a) Childhood Region: Rural

(b) Childhood Region: Urban

Figure 2: McCrary Density Test by Childhood Region

Secondly, we check for any discontinuities in covariates near the cutoff. We construct dummy variables for these background characteristics that take value 1 depending on whether the respondent grew up (until the age of 12) in Western, Northern, Southern, Central or Eastern regions of Turkey, whether the respondent

grew up in rural area (until the age of 12), the language of the interview was not Turkish, has ever been married, has ever had a relationship and 0 otherwise. Local averages of the covariates in monthly bins have been plotted against year and month of birth. January 1987 is appointed as the cutoff and lines represent local linear fits and respective confidence intervals. We find no discontinuity in any of the covariates at the cutoff. Table 1 lists the RD estimates.

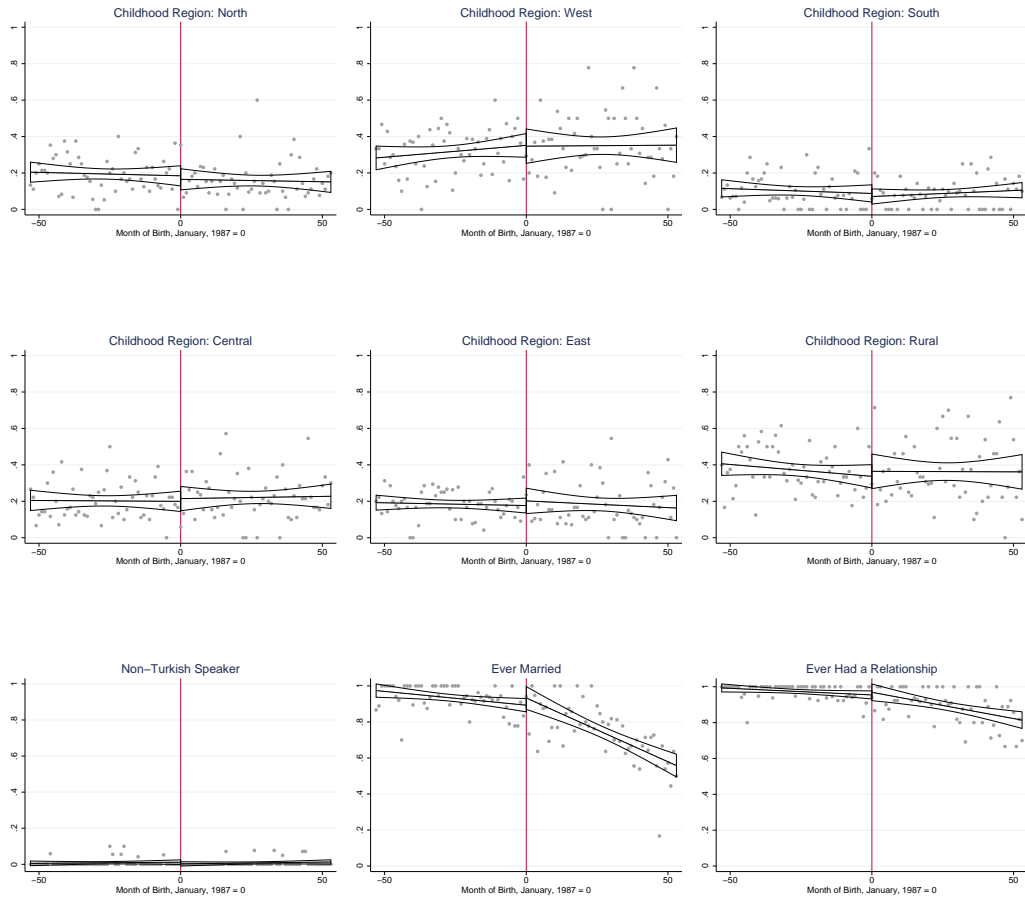


Figure 3: Local Kernel Density Tests for Covariates



Table 1: RD Estimates for Covariates

VARIABLES	(1) Linear RD	(2) Mean	(3) Bandwidth	(4) Observations
Childhood Region: North	-0.008 (-0.232)	0.18	76	2,047
Childhood Region: West	0.023 (0.486)	0.41	91	2,512
Childhood Region: South	0.011 (0.427)	0.09	80	2,203
Childhood Region: Central	-0.007 (-0.201)	0.17	59	1,631
Childhood Region: East	0.008 (0.194)	0.16	59	1,631
Childhood Region: Rural	0.039 (0.891)	0.34	88	2,371
Non-Turkish Speaker	-0.004 (-0.587)	0.01	68	1,853
Ever Married	0.006 (0.202)	0.84	87	2,404
Ever Had a Relationship	0.008 (0.316)	0.94	70	1,907

*Note:* Data are from 2014 TNRDVW. Column (1) lists linear RD point estimates, columns (2)-(3) list means, optimal CCT bandwidths and observations included in each regression, respectively. January 1987 is chosen as cutoff. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

## CHAPTER 3

# SCHOOLING AND DOMESTIC VIOLENCE OUTCOMES

We start by studying the effects of the Compulsory Schooling Law on education, in detail. Further we proceed to investigate domestic violence outcomes.

### 3.1 Effects of Compulsory Schooling Law on Education Outcomes

We first report the schooling effects of the reform on the sample of all women and the subsample of women who have had relationship – who are or have ever been married, engaged and boyfriend. We perform linear RD regression, using schooling outcomes as dependent variables – years of schooling, a dummy that takes value one if the respondent has completed junior high school. We appoint month of birth as the forcing variable and include interview language, month of birth fixed effects,

childhood area of growth, childhood region fixed effects and interaction of the latter two as covariates. Table 2 lists the treatment effect estimates of local linear and quadratic regressions within the CCT bandwidth  $-\hat{h}$ ,  $2\hat{h}$  and  $\hat{h}/2$ .

We observe that the Compulsory Schooling Law has increased the total years of schooling and junior high school completion rate by 0.649 years and 19 ppt, respectively. Years of schooling for women who have had a relationship have increased by 0.596 years which is a 7 percent increase relative to the mean. Also a 19.8 ppt increase in junior high school completion rate reaffirms the significant effect of the reform on education for the subsample of women that we target. Our results are consistent with those of Gulesci and Meyersson (2012), Dincer et al. (2014) and Erten and Keskin (2016).

Table 2: Treatment Effects on Schooling

VARIABLES	(1) Linear RD $\hat{h}$ bandwidth	(2) Quadratic RD $\hat{h}$ bandwidth	(3) Linear RD $\hat{h}/2$ bandwidth	(4) Linear RD $2\hat{h}$ bandwidth	(5) BW	(6) Obs.	(7) Mean
<b>SAMPLE OF ALL WOMEN</b>							
Years of Schooling	0.649* (1.844)	0.393 (0.741)	0.182 (0.373)	0.813*** (2.959)	53	1,337	8.44
Junior Highschool Completion Rate	0.190*** (4.802)	0.141** (2.277)	0.081 (1.413)	0.185*** (6.386)	58	1,259	0.63
<b>SAMPLE OF WOMEN WHO HAVE HAD A RELATIONSHIP</b>							
Years of Schooling	0.596* (1.671)	0.430 (0.800)	0.176 (0.353)	0.546** (1.971)	50	1,258	8.44
Junior Highschool Completion Rate	0.198*** (4.880)	0.144** (2.299)	0.084 (1.432)	0.189*** (6.115)	58	1,184	0.63

*Note:* Data are from 2014 TNRDVW. Column (1)-(4) list RD point estimates for different bandwidths. January 1987 is chosen as cutoff in all specifications. Columns (5)-(7) report optimal CCT bandwidths, number of observations and sample means, respectively. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

Next we perform an RD regression on years of schooling and junior high school

completion rate for women who grew up in rural areas versus ones who grew up in urban areas. Years of schooling have increased by 1.8 years for women who grew up in rural areas, while there is no evidence of increased years schooling for women who grew up in urban areas as a result of the reform. Figure 4 illustrates the RD treatment effects on schooling. Local average years of schooling in monthly bins have been plotted against month and year of birth, 0 (January 1987) being the cutoff. Lines correspond to local linear fits and respective confidence intervals. Table 3 lists the RD treatment effect estimates for the schooling outcomes of the two subsamples.

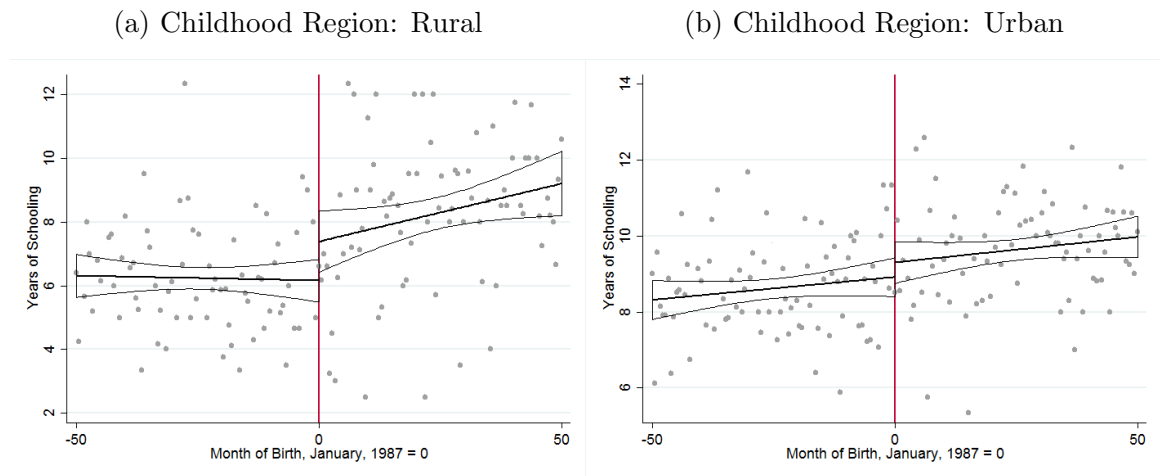


Figure 4: RD Treatment Effects on Schooling: Rural vs Urban

Table 3: Treatment Effects on Schooling by Childhood Region

VARIABLES	(1) Linear RD $\hat{h}$ bandwidth	(2) Quadratic RD $\hat{h}$ bandwidth	(3) Linear RD $\hat{h}/2$ bandwidth	(4) Linear RD $2\hat{h}$ bandwidth	(5) BW	(6) Obs.	(7) Mean
<b>GREW UP IN RURAL AREA</b>							
Years of Schooling	1.815*** (3.216)	0.650 (0.820)	0.708 (0.880)	1.180** (2.474)	46	850	8.44
Junior High school Completion Rate	0.378*** (4.934)	0.251** (2.149)	0.156 (1.476)	0.314*** (5.293)	58	781	0.63
<b>GREW UP IN URBAN AREA</b>							
Years of Schooling	0.085 (0.206)	0.536 (0.871)	0.130 (0.240)	0.176 (0.554)	44	1,357	8.44
Junior High school Completion Rate	0.117** (2.571)	0.116* (1.701)	0.063 (1.025)	0.117*** (3.399)	42	1,306	0.63

*Note:* Data are from 2014 TNRDVW. Column (1)-(4) list RD point estimates for different bandwidths. January 1987 is chosen as cutoff in all specifications. Columns (5)-(7) report optimal CCT bandwidths, number of observations and sample means, respectively. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

### 3.2 Effects of Compulsory Schooling Law on Violence Outcomes

In this section, we examine the effects increased schooling might have on domestic violence. We use physical violence (severe and mild degrees), psychological violence, sexual violence, social control behavior and financial control behavior z-score indexes as dependent variables, while using month and year of birth as the forcing variable. Figure 5 illustrates the RD treatment effects of the Compulsory Schooling Law. Local averages of the dependent variables in monthly bins have been plotted against year and month of birth. January 1987 is appointed as the cutoff and lines represent local linear fits and respective confidence intervals. One can visually

affirm that physical and sexual violence has decreased as a result of the reform.

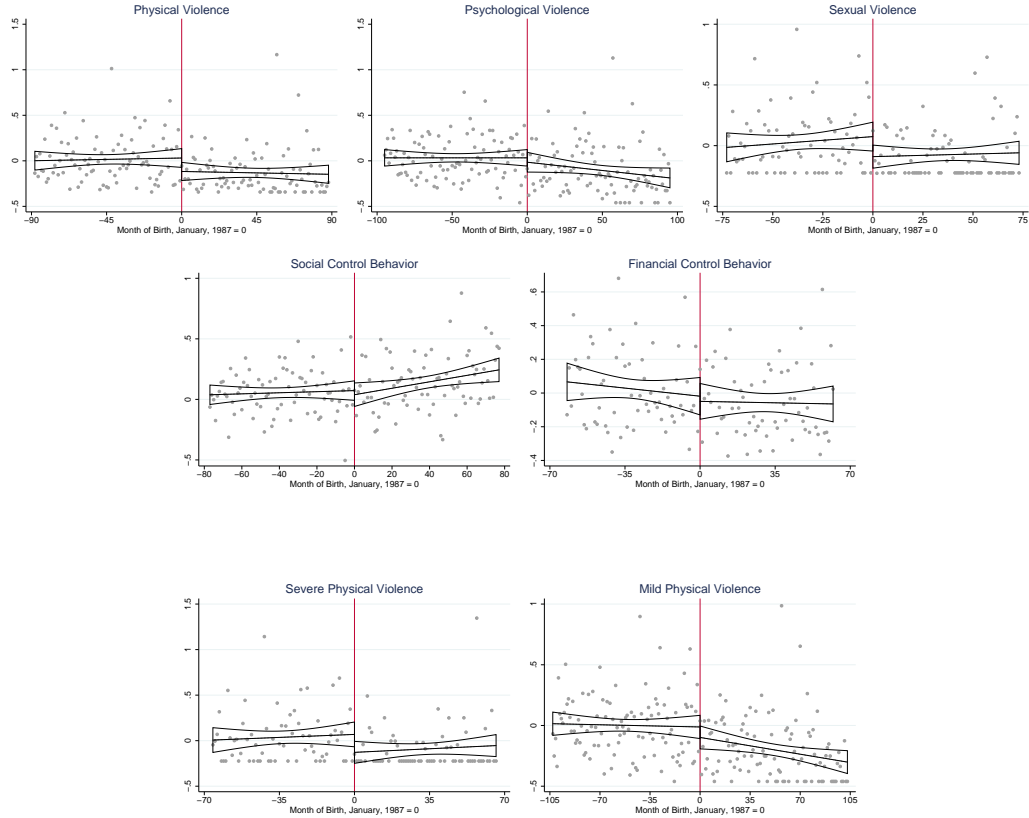


Figure 5: RD Treatment Effects on Domestic Violence Categories

Further, we run OLS, local linear RD, and 2SLS regressions to estimate the effect of the education reform. The violence outcomes are constructed by averaging z-scores of subcategories of violence caused by last partners. Aside from women who have had a relationship, we also restrict our attention to those with rural childhood regions.<sup>1</sup> OLS estimates capture general trends, while local linear RD (sharp RD) and 2SLS (fuzzy RD) estimates capture the effect of the reform within the optimal bandwidth obtained via CCT algorithm. We include month of birth fixed effects, region fixed effects and childhood rural/urban region dummies and their interactions as controls.

<sup>1</sup>We do not analyze the effects of the Compulsory Schooling Law on women who grew up in urban areas, exclusively. Since the reform had no significant effect on years of schooling for this subsample, associating changes in violence with education would be erroneous.

Table 4 reports the regression estimates for the domestic violence indexes. Column (1) lists OLS estimates, columns (2) and (3) list local linear RD and IV estimates. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. Included below the point estimates are t-statistics, means, optimal bandwidths and observations for each regression.

There is a clear negative relationship between violence outcomes and increased years of schooling, based on the OLS estimates. RD estimates for physical and sexual violence are, indeed, negative and significant at 5% level. Despite mild degree of physical violence not having changed, severe degree of physical violence has decreased by 22 ppt, which contributes to the significant decrease in general physical violence. For women who grew up in rural areas physical violence declined by 27.4 ppt, which mainly stem from a 32.9 ppt decrease in severe degree of physical violence.

IV estimates do not exhibit any considerable changes as attributed to the reform. We use the treatment dummy as the instrument for schooling. In the first stage of the 2SLS regression the dependent variable is binary, thus decreasing the efficiency of the point estimates greatly.

We include robustness check for the violence outcomes from last partner in the appendix. Table 10 lists all regressions performed with static plug-in bandwidth of 50 – the CCT optimal bandwidth for schooling outcomes for women who have ever had a relationship.

Table 4: Violence Outcomes from Last Partner by Childhood Region

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Physical Violence	-0.024*** (-5.442)	-0.171** (-2.298)	-0.226 (-1.618)	-0.006 (-0.670)	-0.274** (-2.214)	-0.182 (-1.537)
Mean	-0.03	-0.03	-0.03	-0.01	-0.01	-0.01
Bandwidth	88	88	88	69	69	69
Observations	1,986	1,986	1,986	648	648	648
Severe Physical Violence	-0.015*** (-3.312)	-0.220** (-2.476)	-0.327 (-1.499)	-0.010 (-1.067)	-0.329** (-2.392)	-0.215* (-1.738)
Mean	-0.01	-0.01	-0.01	0.02	0.02	0.02
Bandwidth	66	66	66	75	75	75
Observations	1,743	1,743	1,743	715	715	715
Mild Physical Violence	-0.033*** (-6.728)	-0.117 (-1.634)	-0.217 (-1.214)	-0.011 (-1.036)	-0.136 (-1.002)	-0.090 (-0.888)
Mean	-0.06	-0.06	-0.06	-0.02	-0.02	-0.02
Bandwidth	103	103	103	69	69	69
Observations	2,456	2,456	2,456	647	647	647
Psychological Violence	-0.021*** (-4.568)	-0.112 (-1.507)	-0.198 (-1.270)	-0.007 (-0.710)	-0.144 (-1.096)	-0.085 (-1.057)
Mean	0.02	0.02	0.02	0.00	0.00	0.00
Bandwidth	95	95	95	73	73	73
Observations	2,224	2,224	2,224	691	691	691
Sexual Violence	-0.019*** (-3.954)	-0.201** (-2.385)	-0.292 (-1.525)	-0.012 (-1.476)	-0.200 (-1.525)	-0.106 (-1.349)
Mean	-0.01	-0.01	-0.01	0.02	0.02	0.02
Bandwidth	73	73	73	86	86	86
Observations	1,857	1,857	1,857	824	824	824
Social Control Behavior	-0.023*** (-5.115)	-0.050 (-0.755)	-0.073 (-0.734)	-0.021*** (-2.812)	0.016 (0.160)	0.010 (0.162)
Mean	0.07	0.07	0.07	0.10	0.10	0.10
Bandwidth	77	77	77	73	73	73
Observations	1,857	1,857	1,857	696	696	696
Financial Control Behavior	-0.025*** (-5.362)	-0.039 (-0.483)	-0.095 (-0.463)	-0.006 (-0.717)	-0.008 (-0.059)	-0.006 (-0.060)
Mean	-0.01	-0.01	-0.01	0.00	0.00	0.00
Bandwidth	62	62	62	66	66	66
Observations	1,570	1,570	1,570	621	621	621

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.



We also examine the effect of the reform on domestic violence from any partner. Again we observe a negative relationship between violence outcomes and education (see Table 5). An additional year of schooling leads to a 2.4 ppt decrease in physical violence which is 80 percent below the average.

The Compulsory Schooling Law had a significant negative effect on physical and sexual violence reducing them by 17.1 ppt and 20.1 ppt, respectively. Moreover, the reform decreased physical violence incidences with severe health damage by 22 ppt.

The Schooling Law also had a significant effect in reducing violence experienced by women who grew up in rural areas. Physical violence has decreased by 27.4 ppt and physical violence acts with severe health damage has declined by mere 32.9 ppt which is considerably larger than the whole sample.

The Compulsory Schooling Law, primarily had a significant impact on fighting domestic violence, by decreasing physical and sexual violence experienced by women. The effect of the reform on physical violence was by larger margin for women who grew up in rural regions. To refine our analysis we investigate the channels that link education and domestic violence in further sections.

Table 5: Violence Outcomes from Any Partner by Childhood Region

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Physical Violence	-0.022*** (-4.137)	-0.140** (-2.009)	-0.205 (-1.438)	-0.001 (-0.110)	-0.235* (-1.851)	-0.196 (-1.172)
Mean	-0.03	-0.03	-0.03	0.06	0.06	0.06
Bandwidth	90	90	90	63	63	63
Observations	2,080	2,080	2,080	602	602	602
Severe Physical Violence	-0.014*** (-3.124)	-0.139* (-1.677)	-0.198 (-1.313)	0.001 (0.146)	-0.347** (-2.608)	-0.245 (-1.550)
Mean	0.01	0.01	0.01	0.03	0.03	0.03
Bandwidth	87	87	87	64	64	64
Observations	1,964	1,964	1,964	614	614	614
Mild Physical Violence	-0.029*** (-5.381)	-0.139* (-1.943)	-0.246 (-1.307)	-0.007 (-0.689)	-0.126 (-0.975)	-0.089 (-0.836)
Mean	0.02	0.02	0.02	0.09	0.09	0.09
Bandwidth	97	97	97	66	66	66
Observations	2,224	2,224	2,224	630	630	630
Psychological Violence	-0.017*** (-3.214)	-0.116 (-1.470)	-0.171 (-1.306)	-0.128 (-1.075)	-0.128 (-1.075)	-0.128 (-1.075)
Mean	0.03	0.03	0.03	0.04	0.04	0.04
Bandwidth	82	82	82	76	76	76
Observations	2,049	2,049	2,049	727	727	727
Sexual Violence	-0.018*** (-3.938)	-0.189** (-2.221)	-0.303 (-1.398)	-0.011 (-1.427)	-0.229* (-1.916)	-0.135 (-1.571)
Mean	0.02	0.02	0.02	0.06	0.06	0.06
Bandwidth	74	74	74	90	90	90
Observations	1,884	1,884	1,884	866	866	866
Financial Control Behavior	-0.022*** (-4.450)	-0.047 (-0.605)	-0.113 (-0.568)	-0.007 (-0.868)	0.019 (0.151)	0.014 (0.153)
Mean	0.02	0.02	0.02	0.03	0.03	0.03
Bandwidth	62	62	62	63	63	63
Observations	1,571	1,571	1,571	610	610	610

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

## CHAPTER 4

### INVESTIGATING CAUSAL CHANNELS

Having established the negative relationship between the Compulsory Schooling Law's effect and domestic violence, we continue by examining the causal channels between the two.

#### 4.1 Gender Attitudes

We start by quantifying women's attitudes towards gender norms. The data includes dummy variables based on various statements, that take value 1 if the respondent agrees with the statement. Larger values correspond to more gender-equal opinions. Also we construct a gender attitudes index by averaging z-scores of the variables, where again, larger values correspond to more equal stance.

Firstly, we observe a positive relationship between schooling and gender-equal attitudes based on OLS estimates. An additional year of schooling increases the

probability of women not condone violence from intimate partners by 2.6 ppt which is 4 percent more than the average.

Secondly, we find that the education reform had a positive effect on attitudes encompassing women's autonomy in spending her money and a negative effect on their opinions on equal housework (e.g. cleaning, laundry work etc.), namely by 8.3 ppt and 7.5 ppt, respectively. However the point estimate of the attitude towards equal housework does not survive robustness check and it is insignificant within the bandwidth 50. The attitude towards women's autonomy to spend their own money, on the other hand, is robust. This result hints towards the household bargaining theory, i.e. women becoming more aware of their rights, render them less tolerant of staying in an abusive relationship.

Our findings exhibit no significant change in women's attitudes towards husband's right to use violence or her right to refuse sexual intercourse without her consent. The last row of Table 6 shows the results for the overall gender attitudes index and it is insignificant. We fail to find any evidence of a change in women's gender attitudes among women that were raised in rural areas.

Table 6: Education Effects on Gender Attitudes by Childhood Region

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Disagree: a woman should not argue with her husband	0.033*** (10.292)	-0.041 (-0.716)	-0.129 (-0.473)	0.041*** (6.495)	-0.011 (-0.116)	-0.013 (-0.116)
Mean	0.67	0.67	0.67	0.61	0.61	0.61
Bandwidth	54	54	54	55	55	55
Observations	1,428	1,428	1,428	517	517	517
Disagree: a woman cannot spend her own money	0.016*** (5.293)	0.083* (-1.974)	0.110 (-1.330)	0.011 (1.635)	0.170 (-1.646)	0.164 (-0.994)
Mean	0.70	0.70	0.70	0.66	0.66	0.66
Bandwidth	76	76	76	55	55	55
Observations	1,969	1,969	1,969	508	508	508
Agree: equal housework	0.023*** (8.369)	-0.075* (-1.811)	-0.114 (-1.148)	0.022*** (4.094)	-0.037 (-0.441)	-0.027 (-0.424)
Mean	0.73	0.73	0.73	0.67	0.67	0.67
Bandwidth	80	80	80	63	63	63
Observations	2,153	2,153	2,153	611	611	611
Disagree: children can be beaten	0.019*** (6.797)	0.008 (0.200)	0.012 (0.204)	0.025*** (4.668)	-0.006 (-0.080)	-0.004 (-0.081)
Mean	0.75	0.75	0.75	0.68	0.68	0.68
Bandwidth	82	82	82	81	81	81
Observations	1,815	1,815	1,815	767	767	767
Disagree: men are responsible for women's actions	0.034*** (11.129)	-0.019 (-0.423)	-0.032 (-0.380)	0.028*** (4.923)	-0.015 (-0.204)	-0.010 (-0.209)
Mean	0.63	0.63	0.63	0.57	0.57	0.57
Bandwidth	82	82	82	80	80	80
Observations	2,101	2,101	2,101	753	753	753
Disagree: men can use violence in certain situations	0.026*** (7.019)	0.051 (0.886)	0.063 (0.882)	0.022*** (3.203)	0.106 (1.038)	0.108 (0.872)
Mean	0.66	0.66	0.66	0.61	0.61	0.61
Bandwidth	61	61	61	58	58	58
Observations	1,554	1,554	1,554	531	531	531
Disagree: women cannot refuse having sex if husband wants	0.003*** (2.895)	0.005 (0.448)	0.007 (0.436)	0.003 (1.592)	0.035 (1.407)	0.020 (1.277)
Mean	0.98	0.98	0.98	0.97	0.97	0.97
Bandwidth	66	66	66	73	73	73
Observations	1,733	1,733	1,733	685	685	685
Gender attitudes index	0.048*** (13.080)	-0.041 (-0.836)	-0.071 (-0.639)	0.053*** (7.712)	0.011 (0.115)	0.011 (0.120)
Mean	0.05	0.05	0.05	-0.07	-0.07	-0.07
Bandwidth	62	62	62	56	56	56
Observations	1,693	1,693	1,693	526	526	526

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

## 4.2 Labor Market Outcomes

We continue our analysis by examining the effect of the Compulsory Schooling Law on labor market outcomes for women. We include information on women's employment status, employed sector, social security status and ownership of financial assets that generates income – land, house, company/business, vehicle, bank savings and other in regressions. The survey data does not contain information about women or household income.

The OLS estimates indicate a positive relationship between education and labor market outcomes. An additional year of schooling implies higher probability of better labor market position and more access to financial assets, and naturally less probability of being employed in agricultural sector.

We find no evidence of a significant change caused by the education reform. The first, fourth and last rows of Table 7 indicate insignificant RD and IV estimates which refute the positive effect of the Compulsory Schooling Law on access to resources and economic empowerment of women. Therefore, we must seek for changes in other channels to explain the causal relationship between increased schooling and violence against women.

Table 7: Education Effects on Labor Market Outcomes by Childhood Region

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Employed	0.033*** (11.183)	-0.014 (-0.405)	-0.027 (-0.357)	0.021*** (3.654)	-0.012 (-0.174)	-0.007 (-0.174)
Mean	0.28	0.28	0.28	0.22	0.22	0.22
Bandwidth	94	94	94	64	64	64
Observations	2,292	2,292	2,292	569	569	569
Employed in agriculture	-0.003*** (-3.471)	0.001 (0.070)	0.001 (0.071)	-0.002 (-0.933)	-0.037 (-1.331)	-0.019 (-1.214)
Mean	0.02	0.02	0.02	0.04	0.04	0.04
Bandwidth	72	72	72	83	83	83
Observations	1,788	1,788	1,788	800	800	800
Employed in service	0.040*** (14.987)	-0.006 (-0.174)	-0.010 (-0.168)	0.027*** (4.731)	-0.020 (-0.307)	-0.020 (-0.294)
Mean	0.21	0.21	0.21	0.13	0.13	0.13
Bandwidth	87	87	87	55	55	55
Observations	2,164	2,164	2,164	526	526	526
Social security	0.042*** (16.043)	0.047 (1.349)	0.070 (1.403)	0.028*** (5.801)	0.057 (1.157)	0.035 (1.196)
Mean	0.19	0.19	0.19	0.12	0.12	0.12
Bandwidth	78	78	78	74	74	74
Observations	1,915	1,915	1,915	700	700	700
Ownership index	0.027*** (7.425)	-0.051 (-1.181)	-0.078 (-0.855)	0.026*** (4.388)	-0.086 (-1.278)	-0.050 (-1.097)
Mean	-0.06	-0.06	-0.06	-0.08	-0.08	-0.08
Bandwidth	89	89	89	79	79	79
Observations	2,098	2,098	2,098	751	751	751

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level. \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

### 4.3 Marriage Market Outcomes

We continue by exploring the effect of the Compulsory Schooling Law on marriage partner characteristics. Increased years of schooling for women might have an impact on their intimate partner choices. More selective individuals would be more likely to marry men with better social and economic backgrounds.

The data only includes information about last partners of the respondents. Therefore, results and analyses in this section is attributed to explaining the causal relationship between female education and domestic violence from last partner. The OLS estimates for marriage market outcomes are listed in column (1) of Table 4.3. It appears that schooling is positively correlated with marriage age and partner's years of schooling. The impact of an additional year of female schooling leads to a decline of schooling differences between partners by 0.44 years which is 37 percent less than the average and decreases the husband's addictive behavior index which comprises of averaging z-scores of drinking, smoking, drug abuse and gambling behavior. The differential effects of increased education for women raised in rural areas is by larger margin except for marriage age and marriage decision (see column (4) of Table 4.3).

To examine the RD treatment effects, located in columns (2)-(3) of Table 4.3, the education reform increased the probability of women exercising their choice of partners by 3.7 ppt, while divorce rates have gone down by 4.7 ppt. Husband's propensity of being employed has increased by 8.6 ppt which corresponds to 7.9 percent above the average. Moreover, the likelihood of the husband having experienced violence while being raised has decreased by 11.4 ppt which coincides to 42.2% below the average. Estimates obtained from local linear RD regressions outperform IV in terms of efficiency. Therefore only partner's employment status IV estimate is statistically significant.

We hypothesize that the marriage market outcomes and improved partner characteristics have a dominant role in fighting domestic violence. Our results are consistent with those of Benham (1974) and Lefgren and McIntyre (2006). The role of education is effective before marriage as women become better at selecting partners. Lefgren and McIntyre (2006) finds that a quarter of a year increase in female schooling corresponds to a \$4000 increase in husband's earnings and leads to



better welfare for women.

Women’s improved partner choice can also be observed from the domestic violence outcomes as well. We find that the decline in physical violence act mostly stems from the reduction of those with sever health damage. Partners who use violence as an instrument to control women should be more likely to use mild physical or psychological violence. However, partners’ use of severe physical violence for exerting control over resources is less intuitive, since it also hinders women’s ability to work. It is logical to infer that the reason behind sever physical violence is rather mental psychological than economic. Therefore, increased education for women enhanced their marital foresight and partner selection competence.

Table 8: Education Effects on Marriage Outcomes by Childhood Region

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Marriage age	0.373*** (13.853)	0.259 (0.650)	0.529 (0.554)	0.327*** (5.987)	0.286 (0.428)	0.395 (0.416)
Mean	20.35	20.35	20.35	19.96	19.96	19.96
Bandwidth	48	48	48	47	47	47
Observations	1,146	1,146	1,146	419	419	419
Marriage decision	0.037*** (9.109)	0.112** (2.238)	0.236 (0.964)	0.032*** (4.756)	0.228*** (2.876)	0.223 (1.427)
Mean	0.60	0.60	0.60	0.52	0.52	0.52
Bandwidth	50	50	50	55	55	55
Observations	1,189	1,189	1,189	475	475	475
Partner employed	-0.001 (-0.370)	0.086*** (3.231)	0.132* (1.719)	0.006 (1.422)	0.074 (1.527)	0.052 (1.411)
Mean	0.92	0.92	0.92	0.92	0.92	0.92
Bandwidth	85	85	85	68	68	68
Observations	2,092	2,092	2,092	637	637	637
Partner schooling	0.555*** (22.891)	0.237 (0.535)	0.639 (0.585)	0.502*** (11.867)	0.667 (0.893)	0.830 (0.932)
Mean	9.47	9.47	9.47	8.56	8.56	8.56
Bandwidth	54	54	54	49	49	49
Observations	1,373	1,373	1,373	469	469	469
Schooling difference	-0.443*** (-21.556)	0.068 (0.193)	0.129 (0.180)	-0.530*** (-11.758)	0.241 (0.317)	0.264 (0.279)
Mean	1.19	1.19	1.19	1.78	1.78	1.78
Bandwidth	62	62	62	56	56	56
Observations	2,324	2,324	2,324	523	523	523
Age difference	-0.089* (-1.789)	-0.471 (-0.946)	-1.068 (-0.629)	-0.011 (-0.144)	0.233 (0.197)	0.378 (0.191)
Mean	4.67	4.67	4.67	4.60	4.60	4.60

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Table 8 – continued from previous page

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Bandwidth	53	53	53	46	46	46
Observations	1,210	1,210	1,210	405	405	405
Partner's age	-0.077 (-1.609)	-0.620 (-1.327)	-1.603 (-0.693)	-0.029 (-0.407)	-0.376 (-0.315)	-0.518 (-0.319)
Mean	32.80	32.80	32.80	32.74	32.74	32.74
Bandwidth	57	57	57	48	48	48
Observations	1,303	1,303	1,303	427	427	427
Partner's addictive behavior index	-0.017*** (-2.923)	0.115 (1.454)	0.180 (0.960)	-0.022*** (-2.653)	0.010 (0.101)	0.006 (0.101)
Mean	0.03	0.03	0.03	0.07	0.07	0.07
Bandwidth	62	62	62	96	96	96
Observations	1,713	1,713	1,713	909	909	909
Partner's mother faced violence	0.000 (0.037)	0.051 (0.885)	-0.168 (-0.370)	-0.011 (-1.162)	0.000 (0.000)	0.000 (0.000)
Mean	0.91	0.91	0.91	0.92	0.92	0.92
Bandwidth	76	76	76	64	64	64
Observations	448	448	448	128	128	128
Partner experienced violence	-0.004 (-1.099)	-0.114** (-2.504)	-0.258 (-1.100)	-0.000 (-0.009)	-0.035 (-0.382)	-0.029 (-0.387)
Mean	0.27	0.27	0.27	0.28	0.28	0.28
Bandwidth	78	78	78	67	67	67
Observations	1,596	1,596	1,596	527	527	527
Divorced	0.000 (0.180)	-0.047** (-2.238)	-0.082 (-1.236)	0.002 (0.774)	0.011 (0.357)	0.010 (0.370)
Mean	0.06	0.06	0.06	0.04	0.04	0.04
Bandwidth	65	65	65	76	76	76
Observations	1,561	1,561	1,561	668	668	668
Remarried	-0.003* (-1.947)	-0.019 (-1.110)	-0.030 (-0.849)	-0.003* (-1.753)	-0.001 (-0.038)	-0.001 (-0.038)
Mean	0.03	0.03	0.03	0.03	0.03	0.03
Bandwidth	69	69	69	81	81	81
Observations	1,788	1,788	1,788	771	771	771
Household asset ownership index	-0.006 (-1.352)	0.006 (0.135)	0.015 (0.135)	-0.009 (-0.640)	0.070 (0.640)	0.058 (0.610)
Mean	0.01	0.01	0.01	-0.01	-0.01	-0.01
Bandwidth	61	61	61	63	63	63
Observations	1,549	1,549	1,549	602	602	602

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

## CONCLUSION

The evidence in this study suggests that the Compulsory Schooling Law increased the years of schooling for women by a half-year. The effect of the reform had larger effect on women who grew up in rural regions by increasing years of schooling by 1.8 years. On the other hand, we find no evidence of a differential impact of the schooling law on the urban childhood subsample.

Increased education had an overall non-positive effect on domestic violence outcomes. We report a significant decline in sexual violence and physical violence which is mainly driven by a decrease in offensive incidences with severe health damage. The decrease in the latter category is larger for women raised in rural regions. There is no evidence of a change in psychological violence, social control behavior and financial control behavior.

We also examine the causal channels through which education translates into lower levels domestic violence. We find that the Compulsory Schooling Law had no causal impact on labor market outcomes, while women's gender attitudes have improved slightly. However, the education reform increased the probability of women exercising their choice of partners, while divorce rates have gone down. Husband's likelihood of being employed has increased. Additionally, the probability of the husband having experienced violence while being raised has decreased. These results

relate to the studies that link female education with better marriage matches and partner's higher income.

Although the 1997 Compulsory Schooling Law did not successfully achieve female economic empowerment, overall, we can infer that the reform was significantly effective in fighting domestic violence against women.

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# APPENDIX

Table 9: Summary Statistics for 23-32 Year Old Women by Childhood Region

VARIABLES	Childhood Region			Difference (3) - (2)
	All women	Rural	Urban	
	(1)	(2)	(3)	(4)
	Mean	Mean	Mean	Estimate
	(SD)	(SD)	(SD)	(SE)
	Obs	Obs	Obs	
<hr style="border-top: 3px double #000;"/>				
Education				
Years of Schooling	8.255 (4.196)	6.816 (3.852)	8.949 (4.188)	2.13*** (0.00)
	1,349	495	837	
Junior Highschool Completion	0.624 (0.484)	0.469 (0.500)	0.697 (0.460)	0.23*** (0.00)
	1,270	449	804	
Highschool Completion	0.406 (0.491)	0.266 (0.442)	0.472 (0.499)	0.21*** (0.00)
	1,270	449	804	
Primary school Completion	0.939 (0.240)	0.923 (0.267)	0.945 (0.227)	0.02 (0.21)
	1,270	449	804	
<hr style="border-top: 3px double #000;"/>				
Domestic Violence Indices				
Physical Violence	-0.029 (0.732)	0.001 (0.785)	-0.045 (0.703)	-0.05 (0.38)
	1,348	495	836	
Severe Physical Violence	-0.001 (0.835)	0.023 (0.931)	-0.017 (0.779)	-0.04 (0.53)
	1,348	495	836	
Mild Physical Violence	-0.057 (0.781)	-0.021 (0.796)	-0.074 (0.775)	-0.05 (0.31)
	1,348	495	836	
Psychological Violence	0.042 (0.779)	0.028 (0.751)	0.049 (0.792)	0.02 (0.69)
	1,348	495	836	
Sexual Violence	0.002 (0.798)	0.011 (0.755)	0.002 (0.826)	-0.01 (0.87)
	1,348	495	836	
Social Control Behavior	0.075 (0.589)	0.097 (0.556)	0.062 (0.606)	-0.03 (0.35)
	1,348	495	836	
Financial Control Behaviour	-0.011 (0.689)	0.005 (0.724)	-0.019 (0.670)	-0.02 (0.61)
	1,339	493	829	

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Table 9 – continued from previous page

VARIABLES	Childhood Region			Difference (3) - (2)
	All women	Rural	Urban	
	(1)	(2)	(3)	(4)
	Mean	Mean	Mean	Estimate
	(SD)	(SD)	(SD)	(SE)
	Obs	Obs	Obs	
<b>Gender Attitudes</b>				
Disagree: a woman should not argue with her husband	0.669 (0.471) 1,334	0.613 (0.488) 486	0.694 (0.461) 832	0.08*** (0.01)
Agree: a woman can spend her own money	0.702 (0.458) 1,337	0.656 (0.475) 492	0.725 (0.447) 830	0.07** (0.03)
Agree: a man should help with housework	0.718 (0.450) 1,342	0.680 (0.467) 492	0.740 (0.439) 833	0.06 (0.05)
Disagree: children can be beaten, for discipline	0.740 (0.439) 1,340	0.685 (0.465) 492	0.770 (0.421) 832	0.08*** (0.00)
Disagree: men are responsible for women's actions	0.626 (0.484) 1,328	0.569 (0.496) 484	0.659 (0.474) 828	0.09*** (0.01)
Disagree: a man can use violence in certain situations	0.658 (0.475) 1,280	0.620 (0.486) 473	0.682 (0.466) 790	0.06 (0.05)
Disagree: a woman cannot refuse to have sex with husband	0.884 (0.321 ) 1,161	0.896 (0.305) 484	0.869 (0.337) 687	-0.03** (0.022)
Gender attitudes index	0.036 (0.513) 1,349	-0.064 (0.534) 495	0.091 (0.491) 837	0.16*** (0.00)
<b>Labor Market Outcomes</b>				
Employed	0.258 (0.437) 1,262	0.190 (0.393) 454	0.291 (0.455) 791	0.10*** (0.00)
Employed in agriculture	0.019 (0.136) 1,349	0.037 (0.188) 495	0.010 (0.099) 837	-0.03*** (0.01)
Employed in service	0.200 (0.400) 1,349	0.119 (0.324) 495	0.241 (0.428) 837	0.12*** (0.00)
Social security	0.176 (0.381) 1,349	0.098 (0.298) 495	0.214 (0.411) 837	0.12*** (0.00)
Ownership index	-0.051 (0.487) 1,349	-0.089 (0.438) 495	-0.030 (0.511) 837	0.06 (0.05)
<b>Marriage Outcomes</b>				
Marriage age	20.328 (3.210) 1,224	19.926 (3.152) 460	20.519 (3.225) 751	0.59*** (0.01)
Marriage decision	0.598 (0.490) 1,225	0.518 (0.500) 461	0.643 (0.480) 751	0.12*** (0.00)
Partner employed	0.931 (0.254) 1,345	0.914 (0.281) 493	0.941 (0.235) 835	0.03 (0.10)
Partner schooling	9.454 (3.842) 1,343	8.482 (3.589) 493	9.937 (3.879) 833	1.46*** (0.00)
Schooling difference	1.190	1.675	0.971	-0.70***

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Table 9 – continued from previous page

VARIABLES	Childhood Region			Difference (3) - (2)
	All women	Rural	Urban	
	(1)	(2)	(3)	(4)
	Mean	Mean	Mean	Estimate
	(SD)	(SD)	(SD)	(SE)
	Obs	Obs	Obs	
	(3.608)	(3.589)	(3.608)	(0.00)
	1,343	493	833	
Age difference	4.668	4.457	4.765	0.31
	(4.348)	(4.704)	(4.154)	(0.30)
	1,223	459	751	
Partner's age	32.723	32.695	32.738	0.04
	(4.807)	(5.206)	(4.598)	(0.90)
	1,223	459	751	
Partner's addictive behavior index	0.025	0.122	-0.019	-0.14***
	(0.770)	(0.680)	(0.803)	(0.00)
	1,346	494	835	
Partner's mother faced violence	0.901	0.903	0.899	0.00
	(0.299)	(0.298)	(0.302)	(0.94)
	301	100	199	
Partner experienced violence	0.269	0.276	0.265	-0.01
	(0.444)	(0.448)	(0.442)	(0.73)
	1,117	406	701	
Divorced	0.053	0.033	0.065	0.03
	(0.224)	(0.179)	(0.246)	(0.03)
	1,225	461	751	
Remarried	0.027	0.018	0.032	0.01
	(0.162)	(0.134)	(0.176)	(0.20)
	1,349	495	837	
Household asset ownership index	-0.006	-0.057	0.019	0.08***
	(0.298)	(0.315)	(0.287)	(0.00)
	1,349	495	837	
Covariates				
Non Turkish Interview Language	0.008	0.003	0.003	0.00
	(0.087)	(0.050)	(0.057)	(0.83)
	1,349	495	837	
Childhood region: Rural	0.338	1.000	0.000	1.000***
	(0.473)	(0.000)	(0.000)	(0.000)
	1,332	495	837	
Childhood region: North	0.166	0.255	0.121	-0.13***
	(0.372)	(0.437)	(0.327)	(0.00)
	1,349	495	837	
Childhood region: West	0.392	0.238	0.463	0.22***
	(0.488)	(0.426)	(0.499)	(0.00)
	1,349	495	837	
Childhood region: South	0.089	0.106	0.080	-0.03
	(0.284)	(0.308)	(0.272)	(0.19)
	1,349	495	837	
Childhood region: Central	0.174	0.190	0.168	-0.02
	(0.379)	(0.393)	(0.374)	(0.34)
	1,349	495	837	
Childhood region: East	0.179	0.210	0.167	-0.04
	(0.384)	(0.408)	(0.373)	(0.08)
	1,349	495	837	

Table 10: Violence Outcomes from Last Partner with Static Bandwidth

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Physical Violence	-0.021*** (-3.849)	-0.267*** (-2.880)	-0.732 (-0.733)	-0.010 (-1.101)	-0.397*** (-2.678)	-0.438 (-1.045)
Mean	-0.04	-0.04	-0.04	-0.01	-0.01	-0.01
Bandwidth	50	50	50	50	50	50
Observations	1,257	1,257	1,257	471	471	471
Severe Physical Violence	-0.013*** (-2.639)	-0.300*** (-2.847)	-0.822 (-0.732)	-0.004 (-0.506)	-0.511*** (-3.258)	-0.564 (-1.096)
Mean	-0.02	-0.02	-0.02	0.00	0.00	0.00
Bandwidth	50	50	50	50	50	50
Observations	1,257	1,257	1,257	471	471	471
Mild Physical Violence	-0.028*** (-4.301)	-0.234** (-2.348)	-0.640 (-0.723)	-0.016 (-1.244)	-0.281* (-1.707)	-0.310 (-0.919)
Mean	-0.07	-0.07	-0.07	-0.02	-0.02	-0.02
Bandwidth	50	50	50	50	50	50
Observations	1,257	1,257	1,257	471	471	471
Psychological Violence	-0.024*** (-4.098)	-0.219** (-2.188)	-0.599 (-0.768)	-0.012 (-1.018)	-0.195 (-1.292)	-0.215 (-0.897)
Mean	0.03	0.03	0.03	0.01	0.01	0.01
Bandwidth	50	50	50	50	50	50
Observations	1,257	1,257	1,257	471	471	471
Sexual Violence	-0.022*** (-3.459)	-0.217** (-2.073)	-0.593 (-0.721)	-0.006 (-0.645)	-0.375** (-2.050)	-0.413 (-0.965)
Mean	-0.01	-0.01	-0.01	0.00	0.00	0.00
Bandwidth	50	50	50	50	50	50
Observations	1,257	1,257	1,257	471	471	471
Social Control Behaviour	-0.024*** (-3.997)	-0.066 (-0.814)	-0.181 (-0.572)	-0.012 (-1.258)	-0.040 (-0.318)	-0.044 (-0.317)
Mean	0.07	0.07	0.07	0.10	0.10	0.10
Bandwidth	50	50	50	50	50	50
Observations	1,257	1,257	1,257	471	471	471
Financial Control Behaviour	-0.024*** (-4.896)	-0.086 (-0.979)	-0.213 (-0.664)	-0.011 (-1.232)	-0.068 (-0.475)	-0.084 (-0.438)
Mean	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01
Bandwidth	50	50	50	50	50	50
Observations	1,249	1,249	1,249	469	469	469

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

Table 11: Education Effects on Gender Attitudes with Static Bandwidth

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Disagree: a woman should not argue with her husband	0.033*** (9.508)	-0.040 (-0.638)	-0.127 (-0.416)	0.037*** (5.424)	-0.053 (-0.545)	-0.069 (-0.475)
Mean	0.67	0.67	0.67	0.61	0.61	0.61
Bandwidth	50	50	50	50	50	50
Observations	1,245	1,245	1,245	463	463	463
Disagree: a woman cannot spend her own money	0.014*** (3.808)	0.111** (-2.208)	0.324 (-0.658)	0.012* (1.689)	0.150 (-1.322)	0.166 (-0.834)
Mean	0.71	0.71	0.71	0.66	0.66	0.66
Bandwidth	50	50	50	50	50	50
Observations	1,248	1,248	1,248	468	468	468
Agree: equal housework	0.025*** (6.977)	-0.039 (-0.717)	-0.105 (-0.468)	0.025*** (3.880)	0.050 (0.532)	0.056 (0.536)
Mean	0.72	0.72	0.72	0.68	0.68	0.68
Bandwidth	50	50	50	50	50	50
Observations	1,252	1,252	1,252	469	469	469
Disagree: children can be beaten	0.021*** (6.363)	0.066 (1.414)	0.188 (0.706)	0.028*** (3.974)	0.066 (0.668)	0.073 (0.632)
Mean	0.74	0.74	0.74	0.68	0.68	0.68
Bandwidth	50	50	50	50	50	50
Observations	1,250	1,250	1,250	468	468	468
Disagree: men are responsible for women's actions	0.032*** (8.551)	-0.035 (-0.592)	-0.127 (-0.355)	0.028*** (4.020)	0.020 (0.222)	0.033 (0.212)
Mean	0.62	0.62	0.62	0.56	0.56	0.56
Bandwidth	50	50	50	50	50	50
Observations	1,238	1,238	1,238	460	460	460
Disagree: men can use violence in certain situations	0.027*** (6.545)	0.097 (1.472)	0.135 (1.253)	0.020** (2.528)	0.109 (1.035)	0.106 (0.811)
Mean	0.66	0.66	0.66	0.62	0.62	0.62
Bandwidth	50	50	50	50	50	50
Observations	1,195	1,195	1,195	451	451	451
Disagree: women cannot refuse having sex if husband wants	0.004** (2.582)	-0.016 (-1.086)	-0.040 (-0.692)	0.003 (1.182)	-0.008 (-0.252)	-0.008 (-0.254)
Mean	0.98	0.98	0.98	0.96	0.96	0.96
Bandwidth	50	50	50	50	50	50
Observations	1,251	1,251	1,251	467	467	467
Gender attitudes index	0.049*** (12.447)	-0.040 (-0.702)	-0.111 (-0.432)	0.048*** (6.652)	-0.005 (-0.049)	-0.005 (-0.050)
Mean	0.04	0.04	0.04	-0.07	-0.07	-0.07
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

Table 12: Education Effects on Labor Market Outcomes with Static Bandwidth

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Employed	0.033*** (8.333)	-0.087* (-1.798)	-0.225 (-0.635)	0.020*** (3.021)	-0.035 (-0.425)	-0.029 (-0.404)
Mean	0.25	0.25	0.25	0.19	0.19	0.19
Bandwidth	50	50	50	50	50	50
Observations	1,177	1,177	1,177	433	433	433
Employed in agriculture	-0.002** (-2.057)	-0.019 (-1.508)	-0.052 (-0.632)	-0.003 (-1.083)	-0.047 (-1.409)	-0.052 (-0.897)
Mean	0.02	0.02	0.02	0.04	0.04	0.04
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471
Employed in service	0.037*** (10.942)	-0.059 (-1.214)	-0.163 (-0.532)	0.026*** (4.597)	-0.010 (-0.137)	-0.011 (-0.136)
Mean	0.19	0.19	0.19	0.12	0.12	0.12
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471
Social security	0.039*** (13.172)	0.025 (0.630)	0.070 (0.675)	0.024*** (4.359)	0.084 (1.358)	0.093 (1.081)
Mean	0.18	0.18	0.18	0.10	0.10	0.10
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471
Ownership index	0.025*** (5.422)	-0.111* (-1.807)	-0.308 (-0.618)	0.022*** (2.802)	-0.120 (-1.465)	-0.133 (-0.882)
Mean	-0.06	-0.06	-0.06	-0.09	-0.09	-0.09
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.

Table 13: Education Effects on Marriage Outcomes with Static Bandwidth

VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Marriage age	0.373*** (13.853)	0.259 (0.650)	0.529 (0.554)	0.328*** (6.205)	0.310 (0.480)	0.304 (0.475)
Mean	20.33	20.33	20.33	19.93	19.93	19.93
Bandwidth	50	50	50	50	50	50
Observations	1,146	1,146	1,146	437	437	437
Marriage decision	0.038*** (9.362)	0.103* (1.933)	0.210 (0.926)	0.032*** (4.729)	0.242*** (2.785)	0.238 (1.324)
Mean	0.60	0.60	0.60	0.52	0.52	0.52
Bandwidth	50	50	50	50	50	50
Observations	1,147	1,147	1,147	438	438	438
Partner employed	-0.001 (-0.436)	0.064** (2.048)	0.163 (0.788)	0.008 (1.541)	0.036 (0.607)	0.037 (0.668)
Mean	0.93	0.93	0.93	0.91	0.91	0.91
Bandwidth	50	50	50	50	50	50
Observations	1,254	1,254	1,254	469	469	469
Partner schooling	0.557*** (21.585)	-0.010 (-0.021)	-0.033 (-0.021)	0.502*** (11.867)	0.667 (0.893)	0.830 (0.932)
Mean	9.47	9.47	9.47	8.56	8.56	8.56
Bandwidth	50	50	50	50	50	50
Observations	1,252	1,252	1,252	469	469	469
Schooling difference	-0.443*** (-17.180)	-0.317 (-0.613)	-1.033 (-0.663)	-0.498*** (-11.775)	-0.137 (-0.172)	-0.170 (-0.191)
Mean	1.24	1.24	1.24	1.75	1.75	1.75
Bandwidth	50	50	50	50	50	50
Observations	1,252	1,252	1,252	469	469	469
Age difference	-0.095* (-1.812)	-0.397 (-0.724)	-0.802 (-0.568)	-0.040 (-0.574)	-0.530 (-0.456)	-0.525 (-0.461)
Mean	4.73	4.73	4.73	4.53	4.53	4.53
Bandwidth	50	50	50	50	50	50
Observations	1,145	1,145	1,145	436	436	436
Partner's age	-0.095* (-1.812)	-0.397 (-0.724)	-0.802 (-0.568)	-0.040 (-0.574)	-0.530 (-0.456)	-0.525 (-0.461)
Mean	32.70	32.70	32.70	32.71	32.71	32.71
Bandwidth	50	50	50	50	50	50
Observations	1,145	1,145	1,145	436	436	436
Partner's addictive behavior index	-0.016** (-2.446)	0.219** (2.383)	0.599 (0.663)	-0.027** (-2.576)	0.122 (1.044)	0.134 (0.680)
Mean	0.03	0.03	0.03	0.12	0.12	0.12
Bandwidth	50	50	50	50	50	50
Observations	1,255	1,255	1,255	470	470	470
Partner's mother faced violence	-0.005 (-0.875)	0.036 (0.476)	-0.085 (-0.345)	-0.017 (-1.424)	-0.022 (-0.144)	-0.157 (-0.108)
Mean	0.90	0.90	0.90	0.89	0.89	0.89
Bandwidth	50	50	50	50	50	50
Observations	274	274	274	94	94	94
Partner experienced violence	-0.004 (-0.868)	-0.125** (-2.114)	-2.063 (-0.121)	0.003 (0.374)	-0.080 (-0.696)	-0.112 (-0.537)
Mean	0.26	0.26	0.26	0.28	0.28	0.28
Bandwidth	50	50	50	50	50	50
Observations	1,047	1,047	1,047	388	388	388
Divorced	0.001 (0.553)	-0.058** (-2.223)	-0.119 (-0.891)	0.007** (2.448)	-0.019 (-0.533)	-0.019 (-0.468)
Mean	0.05	0.05	0.05	0.03	0.03	0.03

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VARIABLES	ALL WOMEN			RURAL		
	(1) OLS	(2) Linear RD	(3) IV	(4) OLS	(5) Linear RD	(6) IV
Bandwidth	50	50	50	50	50	50
Observations	1,147	1,147	1,147	438	438	438
Remarried	-0.002 (-1.291)	-0.019 (-0.941)	-0.053 (-0.534)	0.001 (0.480)	-0.030 (-0.920)	-0.033 (-0.648)
Mean	0.03	0.03	0.03	0.02	0.02	0.02
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471
Household asset ownership index	-0.001 (-0.476)	-0.023 (-0.603)	-0.065 (-0.485)	0.008** (2.083)	-0.014 (-0.293)	-0.016 (-0.303)
Mean	0.00	0.00	0.00	-0.05	-0.05	-0.05
Bandwidth	50	50	50	50	50	50
Observations	1,258	1,258	1,258	471	471	471

*Note:* Data are from 2014 TNRDVW. Column (1)-(3) list OLS, local linear RD and IV estimates, respectively. Columns (4)-(6) report the above mentioned estimates for the subsample of women who grew up in rural areas. January 1987 is chosen as cutoff in all specifications. Below the point estimates are t-statistics, means, optimal CCT bandwidths and observations included in each regression. All specifications include month of birth fixed effects, region fixed effects and childhood rural or urban region dummies and their interactions as controls. Standard errors are clustered at the month-year cohort level \*\*\*, \*\*, \* indicate the significance at 1%, 5%, 10% levels, respectively.