IPV and Income: Quasi-Experimental Evidence from the Earned Income Tax Credit

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OECD-ERC WomEmpower Workshop on

"What Works to Address Violence Against Women?"

May 16 2025

This research was financed by the ERC Advanced Grant (2023-2028) WomEmpower. The WomEmpower project has received funding from the European Research Council (ERC) under the European Union's Horizon Europe research and innovation programme (grant agreement No 101096525)".

Prevalence of Intimate Partner Violence

- More than 1 in 4 women in U.S. report experiencing physical violence from a partner or ex-partner during their lifetime (CDC, 2020).

- Black, low-income, and unmarried women are also at higher risk of abuse.

- The CDC estimates that the lifetime economic cost associated with IPV (including medical expenses, lost productivity, and criminal justice costs, among others) amounts to $3.6 trillion—about $103,767 per victimized woman (CDC 2003).

- Hence, it is crucial to identify policies that can mitigate IPV.

How might the EITC affect IPV?

- Increase in ***Income*** may:
- Increase women's bargaining power within the household, making it easier for them to adopt economic or social sanctions against potentially abusive husbands, or leave an abusive relationship
- Reduce household stress, reducing violence
- Increase IPV if (1) men feel threatened by their partner's greater economic independence ('male backlash' theory in sociology), or (2) potential exposure to other men (evolutionary theory), or (3) men want to extract monetary transfers from their partner ('extractive' theory)

- Increase in ***employment*** may:
- Reduce exposure to violence (they spend less time in the household)
- Increase women's bargaining power
- Direct effects on household income that impact household stress

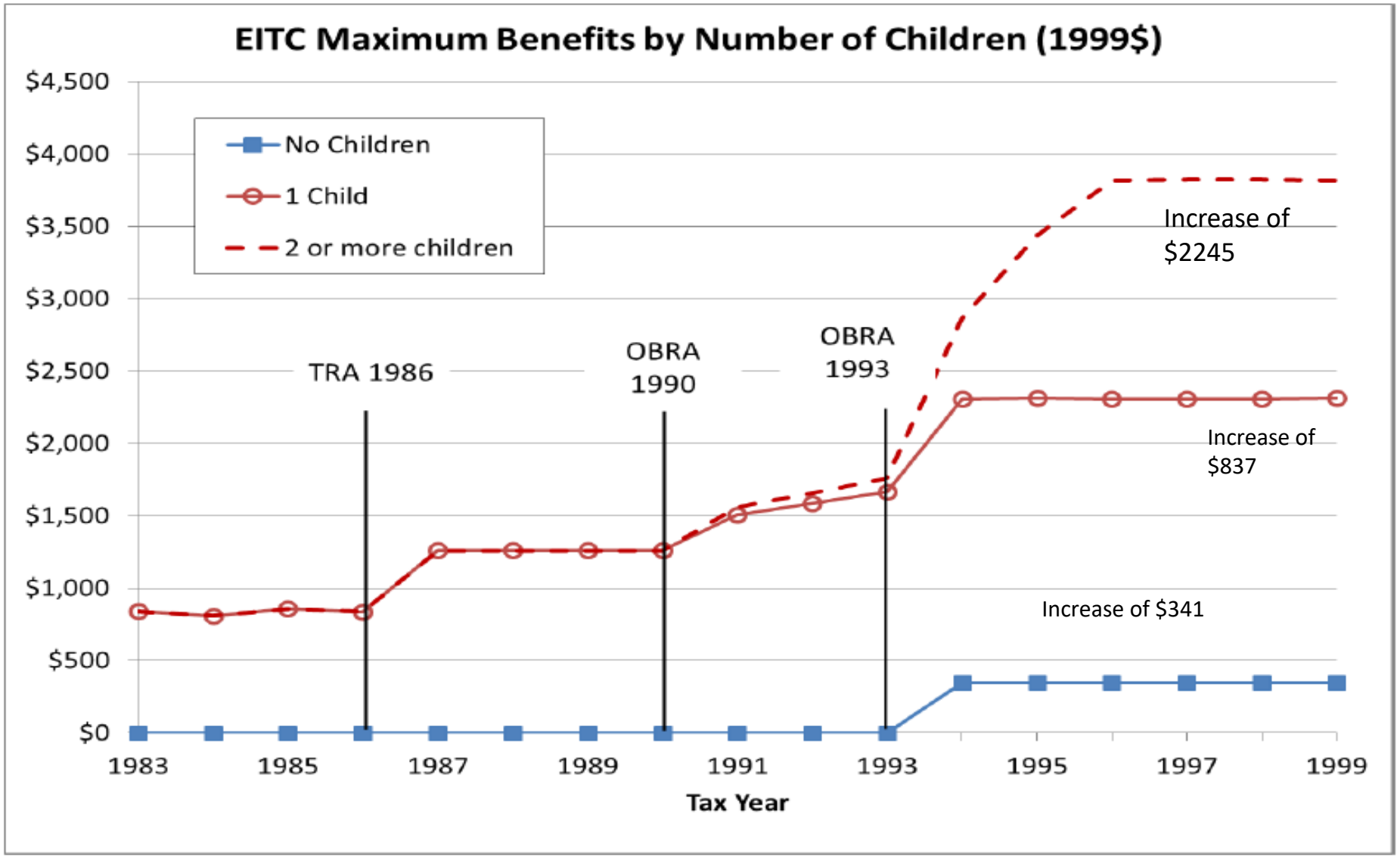
1994 Earned Income Tax Credit (EITC) expansion - Omnibus Budget Reconciliation Act of 1993

- Exogenous and sizable variation in after-tax income for low- to moderate-income families with children

- Following OBRA-93, maximum tax credit offered to families with qualifying children increased a lot relative to that of families with no qualifying children

- By 1998, maximum credit:
  - Increased to:
    - 18% and 34% of the earned income for those with one child
    - 31% and 40% for those with two or more children
  - Yet, remained flat at 6% to 8% of their earned income for those with no children

Figure 1. Maximum Credit for Federal EITC by Tax Year and Number of Qualifying Children



Source: Reprinted from Hoynes, Miller, and Simon (2015).

We use data from **National Crime Victimization Survey (NCVS)** to see if groups that got the expansion of EITC (those with children) experience reductions in IPV relative to childless women.

1992 to 2000 from the National Crime Victimization Survey (NCVS)

- A **nationally representative** survey administered by the US Bureau of Justice Statistics.
- It collects **self-reported information** on rape or sexual assault, aggravated and simple assault, as well as victim-offender relationship.
- Our sample amounts to **over 200,000 women** (!!!)

Results: EITC reform decreased

- **Unmarried mothers' physical and sexual IPV counts** by 1.4 and 0.8 incidents per 100 women (relative to similar women with no qualifying children)

  Pre-means for women with children of 3.9 and 0.7 per 100 women

- **The prevalence of sexual IPV** by 0.1 percentage points

  Pre-OBRA-93 control means of 0.18

- Effects are largest among groups who have more exposure to both EITC and IPV—less educated and unmarried women

Relevance: Almost 20% of all tax filers and 44% of filers with children in the US received the EITC in 2014

What have others done & found?

- **Spencer *et al.* (2020)** finds that state-level EITC reforms reduces IPV among women with less than high school degree.

- **Moe *et al.* (2020), Edmonds *et al.* (2022) and Sims *et al.* (2024)** use **state-level IPV rates** and find no significant effects of state-level EITC reforms on IPV. Possible issues:

    - **Statewide measures of IPV** not focused on the population most affected by IPV and EITC (data not granular enought!)

    - **State EITC benefits relatively small relative** to Federal EITC levels.

Discussion

- Our paper indicates that EITC may have **important spillover effects** on family outcomes like IPV.
  - Additional $1000 in EITC decreases the number of assaults among unmarried women by 21% and reduces the incidence of any assault by 10%.

- These “bonus” results on IPV from the EITC compare favorably with direct policy interventions on IPV like:
  - Lethality Assessment Protocol: significant reduction in IPV counts.

Thank you for your attention!

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Research funded by European Research Council Advanced Senior

Grant: “WomEmpower: The Causal Effect of Motherhood, Gender Norms, and Cash Transfers to Women on Intimate Partner Violence”, 2024-29, ERC-2022 - ADG - SH3.

Estimation I

- We use a DiD approach to estimate the following linear probability model:

$$y_{iat} = \beta_1 Post_t * (children \geq 1)_{iat} + \gamma_a + \emptyset_t + \mathrm{X'}_{iat}\beta_2 + \varepsilon_{iat}$$

- y_{iat} is our measure of IPV
- $Post_t$ is an indicator variable for being post-OBRA-93.
- The variable $(children \geq 1)_{iat}$ is an indicator variable equal to 1 if woman *i* has one or more qualifying children in the household in year *t* and 0 if there are no qualifying children in the household.
- The coefficient of interest, $\hat{\beta}_1$, is the effect of the interaction between being in the post−OBRA−93 period and the treated group (having children)
- γ_a is a vector of fixed effect for the number of children in the household correspond to the policy variation in the EITC; θ_t is a vector of year fixed effects.
- X_{iat} is a vector of demographic controls for woman *i* with *a* number of children in year *t*. It includes dummies for race, marriage, education and age.

Estimation II

- We also use an event study analysis to examine trends:

$$y_{iat} = \sum_{t=1992}^{2000} \delta_t (year = t) * (children \geq 1)_{iat} + \gamma_a + \theta_t + \mathrm{X'}_{iat}\beta_3 + \varepsilon_{iat}$$

- y_{iat} is our measure of IPV for woman i with a number of children in year t,
- $Post_t$ is an indicator variable for being post-OBRA-93.
- The variable $(children \geq 1)_{iat}$ is an indicator variable equal to 1 if woman *i* has one or more qualifying children in the household in year *t* and 0 if there are no qualifying children in the household.
- γ_a is a vector of fixed effect for the number of children in the household correspond to the policy variation in the EITC; θ_t is a vector of year fixed effects.
- X_{iat} is a vector of demographic controls for woman *i* with *a* number of children in year *t*. It includes dummies for race, marriage, education and age.

Effects of EITC Reform on Probability of IPV

Table 4. Baseline estimates, women 16 to 40 years old with less than a four-year college degree (unless otherwise stated)

VARIABLES	(1) Physical Abuse Dummy	(2) Physical Abuse Count	(3) Sexual Abuse Dummy	(4) Sexual Abuse Count	(5) Physical or Sexual Abuse Dummy	(6) Physical or Sexual Abuse Count
Panel A: All						
Post-OBRA-93 x Children >= 1	-0.001	-0.006	-0.001***	-0.005***	-0.001	-0.011**
	(0.001)	(0.004)	(0.000)	(0.002)	(0.001)	(0.005)
Observations	239,035	239,035	239,035	239,035	239,035	239,035
Panel B: Unmarried women						
Post-OBRA-93 x Children >= 1	-0.002	-0.014**	-0.001**	-0.008***	-0.003**	-0.022***
	(0.001)	(0.007)	(0.000)	(0.003)	(0.001)	(0.007)
Observations	123,954	123,954	123,954	123,954	123,954	123,954
Panel C: Placebo Test: 22 to 40 years old unmarried women with at least a 4-Year College Degree						
Post-OBRA-93 x Children >= 1	-0.004	-0.003	-0.000	0.003	-0.004	0.000
	(0.004)	(0.014)	(0.002)	(0.004)	(0.004)	(0.016)
Observations	30,294	30,294	30,294	30,294	30,294	30,294

Notes: Standard errors robust to heteroskedasticity are in parenthesis. Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.
*** p<0.01, ** p<0.05, * p<0.1.

Incidence decrease of 0.3 pp

2.2 fewer cases per 100 women

Table 7. Economic impacts on unmarried women 16 to 40 with less than a college degree

VARIABLES	(1) Physical Abuse Dummy	(2) Physical Abuse Count	(3) Sexual Abuse Dummy	(4) Sexual Abuse Count	(5) Physical or Sexual Abuse Dummy	(6) Physical or Sexual Abuse Count
Children 1+ vs. 0 children						
Treatment Effect	-0.002	-0.014**	-0.001**	-0.008***	-0.003**	-0.022***
Increase in After-Tax Income	$2,251	$2,251	$2,251	$2,251	$2,251	$2,251
ToT per $1000, % Impact	-7.22%	-15.86%	-24.68%	-48.68%	-9.73%	-21.06%
Mean	0.0123	0.0392	0.0018	0.0073	0.0137	0.0464

Notes: This table scales the coefficients of the OBRA93 expansion on IPV estimated in tables 4 and 5 by the estimated $ increase in after-tax income. After-tax income includes predicted EITC eligibility imputed using taxsim. All amounts are inflation adjusted to be in 2010 dollars.

Estimation III

- We also run our DiD model allowing for separate treatment effects by the number of children:

$$y_{iat} = \beta_1 Post_t * (children = 1)_a + \beta_2 Post_t * (children \geq 2)_a + \gamma_a + \theta_t + \mathrm{X'}_{iat}\beta_3 + \varepsilon_{iat}$$

- Finally, we estimate a placebo test by running our model on the sample of college-educated women who are likely to be ineligible for the EITC.

Table 4. Baseline estimates, women 16 to 40 years old with less than a four-year college degree (unless otherwise stated)

VARIABLES	(1) Physical Abuse Dummy	(2) Physical Abuse Count	(3) Sexual Abuse Dummy	(4) Sexual Abuse Count	(5) Physical or Sexual Abuse Dummy	(6) Physical or Sexual Abuse Count	(7) Worked
Panel A: All							
Post-OBRA-93 x Children >= 1	-0.001	-0.006	0.001***	0.005***	-0.001	-0.011**	0.021***
	(0.001)	(0.004)	(0.000)	(0.002)	(0.001)	(0.005)	(0.005)
Observations	239,035	239,035	239,035	239,035	239,035	239,035	236,854
Panel B: Unmarried women							
Post-OBRA-93 x Children >= 1	-0.002	-0.014**	-0.001**	0.008***	0.003**	0.022***	0.043***
	(0.001)	(0.007)	(0.000)	(0.003)	(0.001)	(0.007)	(0.006)
Observations	123,954	123,954	123,954	123,954	123,954	123,954	122,761
Panel C: Placebo Test: 22 to 40 years old unmarried women with at least a 4-Year College Degree							
Post-OBRA-93 x Children >= 1	-0.004	-0.003	-0.000	0.003	-0.004	0.000	0.026*
	(0.004)	(0.014)	(0.002)	(0.004)	(0.004)	(0.016)	(0.013)
Observations	30,294	30,294	30,294	30,294	30,294	30,294	30,024

Notes: Standard errors robust to heteroskedasticity are in parenthesis. Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.
*** p<0.01, ** p<0.05, * p<0.1.

Figure 3.A. Event study analysis of physical or sexual IPV counts among women with less than a four-year college degree

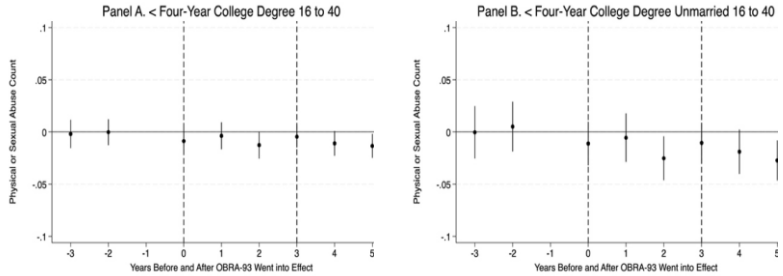
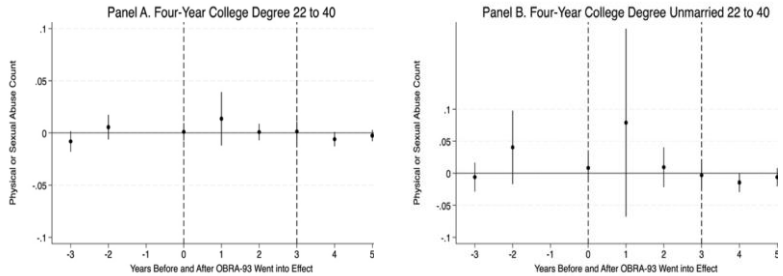
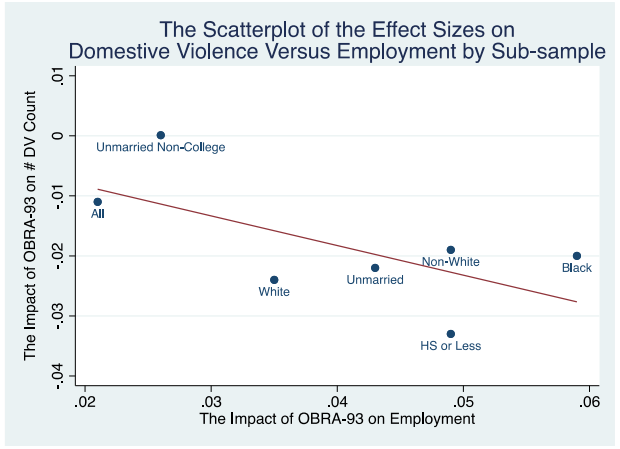


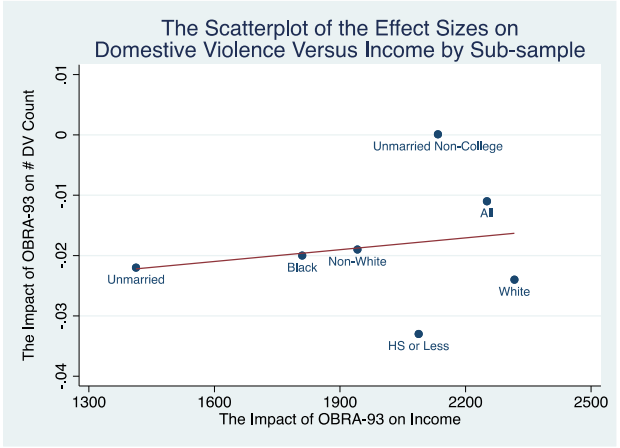
Figure 3.B. Placebo event study analysis of physical or sexual intimate partner violence counts among women with at least a four-year college degree



Notes: Standard errors are robust to heteroskedasticity. In Figure 3.A, women have less than a four-year college degree and are 16- to 40-years old. In Figure 3.B, women have at least a four-year college degree and are 22 to 40 years old. In our sample, the NCVS, year 0 corresponds to survey round 1995, when citizens started to receive the EITC payments for 1994, in which the OBRA-93 went into effect. Year 3 corresponds to survey round 1998, representing the tax year 1997, when the OBRA-93 was fully implemented. Event study coefficients were obtained from the estimates of equation (2). Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.

Figure 6. Treatment effects on employment, income, and IPV across subgroups





Notes: The X-axis on the top panel of Figure 6 shows the impact of the OBRA-93 expansion on employment using the NCVS. The X-axis on the bottom panel shows predicted after tax income (with EITC receipt predicted using taxsim) using data from the 1992 to 2000 March CPS. The Y-axis on both figures is the impact on IPV (from the NCVS). Each point represents a different subgroup whose effects (on work, income, and IPV) were estimated using equation (1). See the text for more details.

Table 5. Subgroup analysis: Single women 16 to 40 years old with less than a four-year college degree (unless otherwise stated)

VARIABLES	(1) Physical Abuse Dummy	(2) Physical Abuse Count	(3) Sexual Abuse Dummy	(4) Sexual Abuse Count	(5) Physical or Sexual Abuse Dummy	(6) Physical or Sexual Abuse Count
Panel A: White						
Post-OBRA-93 x Children >= 1	-0.001	-0.015*	-0.001	-0.009***	-0.002	-0.024**
	(0.001)	(0.008)	(0.001)	(0.003)	(0.002)	(0.009)
Observations	93,856	93,856	93,856	93,856	93,856	93,856
Control Mean	0.0107	0.0361	0.00135	0.00560	0.0119	0.0417
Panel B: Non-White						
Post-OBRA-93 x Children >= 1	-0.003	-0.014	-0.002*	-0.005	-0.004*	-0.019*
	(0.002)	(0.009)	(0.001)	(0.004)	(0.002)	(0.010)
Observations	30,098	30,098	30,098	30,098	30,098	30,098
Control Mean	0.00924	0.0220	0.00109	0.00326	0.00978	0.0252
Panel C: Black						
Post-OBRA-93 x Children >= 1	-0.005*	-0.015	-0.002*	-0.005	-0.005*	-0.020*
	(0.003)	(0.010)	(0.001)	(0.004)	(0.003)	(0.012)
Observations	25,222	25,222	25,222	25,222	25,222	25,222
Control Mean	0.00989	0.0238	0.00103	0.00321	0.0103	0.0270
Panel D: HS or Less						
Post-OBRA-93 x Children >= 1	-0.003	-0.022**	-0.001**	-0.011***	-0.004**	-0.033***
	(0.002)	(0.008)	(0.001)	(0.004)	(0.002)	(0.010)
Observations	82,438	82,438	82,438	82,438	82,438	82,438
Control Mean	0.0115	0.0375	0.00137	0.00584	0.0125	0.0433

Notes: Standard errors robust to heteroskedasticity are in parenthesis. Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.
*** p<0.01, ** p<0.05, * p<0.1.

Table 6. By parity: Single women 16 to 40 years old with less than a four-year college degree

VARIABLES	(1) Physical Abuse Dummy	(2) Physical Abuse Count	(3) Sexual Abuse Dummy	(4) Sexual Abuse Count	(5) Physical or Sexual Abuse Dummy	(6) Physical or Sexual Abuse Count
Panel A: All						
Post-OBRA-93 x Children = 1	-0.003*	-0.009	-0.001	-0.007**	-0.003**	-0.017*
	(0.002)	(0.008)	(0.001)	(0.003)	(0.002)	(0.009)
Post-OBRA-93 x Children >= 2	-0.001	-0.018**	-0.001**	-0.008**	-0.002	-0.026***
	(0.001)	(0.008)	(0.001)	(0.003)	(0.002)	(0.009)
Observations	123,954	123,954	123,954	123,954	123,954	123,954
Control Mean	0.0104	0.0327	0.00129	0.00504	0.0114	0.0377
Panel B: White						
Post-OBRA-93 x Children = 1	-0.003	-0.008	-0.001*	-0.009**	-0.004**	-0.017
	(0.002)	(0.010)	(0.001)	(0.004)	(0.002)	(0.011)
Post-OBRA-93 x Children >= 2	-0.000	-0.021*	-0.001	-0.008**	-0.001	-0.030**
	(0.002)	(0.011)	(0.001)	(0.004)	(0.002)	(0.013)
Observations	93,856	93,856	93,856	93,856	93,856	93,856
Control Mean	0.0107	0.0361	0.00135	0.00560	0.0119	0.0417
Panel C: Black						
Post-OBRA-93 x Children = 1	-0.004	-0.015	-0.000	-0.002	-0.003	-0.016
	(0.003)	(0.014)	(0.001)	(0.003)	(0.003)	(0.015)
Post-OBRA-93 x Children >= 2	-0.005*	-0.015	-0.002*	-0.007	-0.006*	-0.022*
	(0.003)	(0.011)	(0.001)	(0.006)	(0.003)	(0.013)
Observations	25,222	25,222	25,222	25,222	25,222	25,222
Control Mean	0.00989	0.0238	0.00103	0.00321	0.0103	0.0270

Notes: Standard errors robust to heteroskedasticity are in parenthesis. Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.
*** p<0.01, ** p<0.05, * p<0.1.

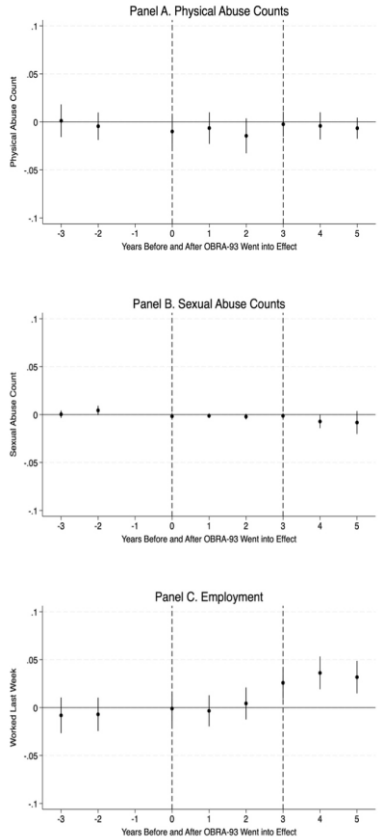
Table 8: The impact of EITC on IPV by the day of the time

VARIABLES	(1) Day	(2) Night
Post-OBRA-93 x Children >= 1	-0.002**	-0.002*
	(0.001)	(0.001)
Observations	123,954	123,954
Control Mean	0.0068	0.0039

Notes: 'Day' and 'Night' are defined as the hours between 6AM to 6PM and 6PM to 6AM, respectively. Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children. Robust standard errors in parentheses.

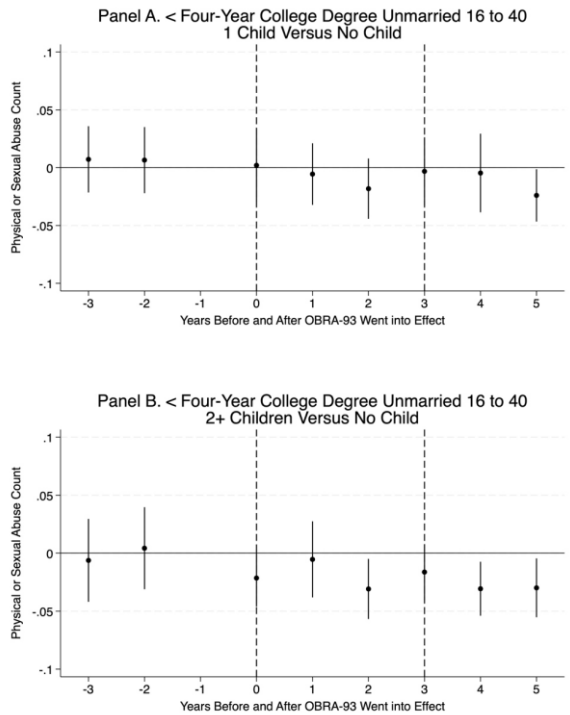
*** p<0.01, ** p<0.05, * p<0.1

Figure 4. Event study analysis of physical abuse counts, sexual abuse counts and employment, women with less than a 4-year college degree, ages 16 to 40 years old



Notes: Standard errors are robust to heteroskedasticity. All samples include age groups 16- to 40-year-old women with less than a four-year college degree. Event study coefficients were obtained from the estimates of equation (2). Panel A shows results from the outcome being counts of physical abuse reported by the woman. Panel B show results from the outcome being counts of sexual abuse reported by the woman. Panel C shows results from the outcome being reportedly employed last week. In our sample, the NCVS, year 0 corresponds to survey round 1995, when citizens started to receive the EITC payments for 1994, in which the OBRA-93 went into effect. Year 3 corresponds to survey round 1998, representing the tax year 1997, when the OBRA-93 was fully implemented. Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.

Figure 5. Event study analysis of physical or sexual IPV counts among unmarried women with less than a four-year college degree, ages 16 to 40



Notes: Standard errors are robust to heteroskedasticity. All samples include age groups 16- to 40-year-old women with less than a four-year college degree. In Panel A, women either have 1 child or no children. In Panel B, women have either have 2+ children or no children. In our sample, the NCVS, year 0 corresponds to survey round 1995, when citizens started to receive the EITC payments for 1994, in which the OBRA-93 went into effect. Year 3 corresponds to survey round 1998, representing the tax year 1997, when the OBRA-93 was fully implemented. Event study coefficients were obtained from the estimates of equation (2). Each model controls for race indicators, age, educational attainment, year and month fixed effects, and the number of children.